

INSTRUCTIONS

FOR OPERATING THE

Minnesota Sewing Machine

Model "E"

SEARS, ROEBUCK & CO.

"THE WORLD'S LARGEST STORE"

The Object of This Book

The object of this book is to provide every user of this Sewing Machine with an ever present instructor, showing how to use it.

Read This Book Carefully

Do not attempt to change any of the adjustments of your sewing machine. Do not turn any screws to see how they work. Every machine is carefully adjusted and tested at the factory and is in perfect condition to do all ordinary sewing.

We also caution you against permitting agents or sewing machine repair men to tamper with your machine. IF YOU HAVE ANY TROUBLE and cannot determine the remedy from this book, write to us and we will be only too glad to advise you promptly just what to do.

Even though you have operated a sewing machine before, we hope you will read this book carefully.

Before doing anything at all with the attachments be sure to read the directions on page 7.

To get the best results, OIL YOUR MACHINE OFTEN. Be careful to purchase good sewing machine oil. Buy the oil which is put up in small bottles or cans especially for sewing machines. If you cannot procure the proper kind of sewing machine oil at home, order it from us when you order other goods.

The Needle Is Another Very Important Part of the Sewing Machine

WE RECOMMEND that you purchase your needles from us, because you will then get the correct needles as well as the high quality for less money than you can buy elsewhere. When you order needles, mention the name and the head number of your machine and send a sample needle. The third important part is to be careful to use only good thread and select your needle after you have decided upon the number of the thread you intend to use.

Nos. 70 and 80 cotton thread will give much better results for all ordinary sewing than coarser and heavier threads.

Oiling

A sewing machine, like any other piece of machinery, needs oiling to insure easy running and to prevent unnecessary wear of the parts which bear upon each other.

If the sewing machine is used continuously IT SHOULD BE OILED EVERY DAY. With moderate use a drop of oil on the bearings just before operating the machine is sufficient. The pictures, Figures 1, 2 and 3, show the points where the oil should be applied. ONE DROP OF OIL at each point is plenty. More than this will retard rather than help the action of the machine. Oil holes are provided in the arm of the machine for parts which cannot be directly reached.

Oil is applied to the needle bar and cam through the hole in the back of the cam house. The needle bar should be raised to its highest point.

To oil works underneath the bed plate, throw off the belt, then turn the head back and apply oil on the bearings as shown in Figure 2. Figure 3 represents the parts of the stand which are to be oiled.

If the machine runs hard it is most likely due to lack of proper oiling of some bearings. Should the oil become gummed from long standing or use of poor oil, apply kerosene or gasoline to all bearings to remove the gummed oil. Then run the machine rapidly and wipe clean, after which oil properly with good machine oil before beginning to sew.

Be sure to use only good quality sewing machine oil.

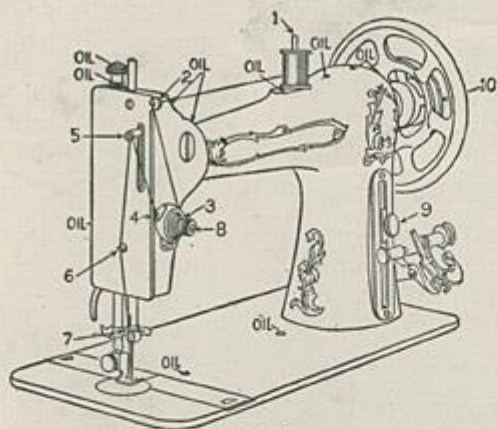


Figure 1

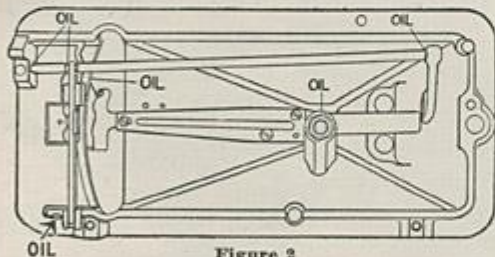


Figure 2

HEAD HINGE LUG HOLES AND HINGE
SET SCREWS HEAD BOTH ENDS OF BED

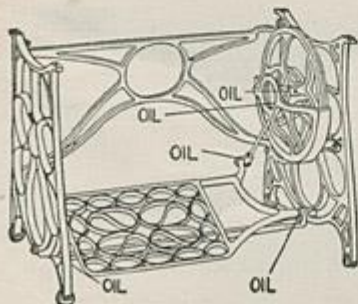


Figure 3

Running the Machine

Loosen the thumbnut (10), Figure 1, page 2, so the handwheel will turn free. Raise the presser foot and take out the shuttle. Place your feet on the treadle with the instep directly over the center. Draw the belt downward with the hand and move the feet up and down on the rocking treadle by pressing on the treadle first with the heel and then with the toes until an easy and steady motion is obtained. When that is accomplished, tighten the thumbnut (10), Figure 1, page 2, and repeat the treadle process until you can easily start the machine in the proper direction and can make a smooth motion. After becoming familiar with the treadle movement in this way, put a cloth under the presser foot and lower it, and without threading the machine, practice the treadle motion until you have complete control of it, when you will be ready to sew.

Threading the Machine

(See Figure 1, Page 2.)

Place the spool on the spool pin (1), guide the thread through the eyelet (2) in the upper forward corner of the face plate, then between the discs of the tension (3), from right to left between the two tension plates, bringing it up under the thread controller spring (4), then through the hole in the thread take-up lever (5), then through the thread guide (6) in the face plate, then through the thread guide (7) on the needle bar, then through the eye of the needle from left to right. The thread guide (6) on the face plate is so arranged that the thread may easily be inserted by sliding it under the eyelet from the rear instead of slipping it through the hole in the guide.

Winding the Bobbin

If an Electric Machine See Instructions on Page 16 Also

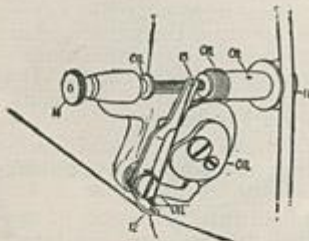


Figure 4

Hold handwheel with the left hand while turning the thumbnut (10), Figure 1, page 2, toward you with the right hand. This will release the sewing mechanism of the machine. Pull bobbin winder toward you until the small pulley wheel (11), Figure 4, comes in contact with the belt. Operate the machine until the distributor (13) is as far to the right as it will go. Place one end of the bobbin in the socket of the spindle on the right side and the other end of the bobbin in the socket of the step, pulling the step nut (14) toward the left to admit the bobbin and letting it spring back into place.

Catch the end of the thread between the brass end of the bobbin and center of the spindle on the right side, carrying the thread through slot (13), then to the lower end of the distributor to the slot (13), then up over eyelet (2), Figure 1, page 2, placing the spool on the spool pin. Run the machine as previously instructed and the bobbin will be automatically wound. Be sure to stop winding before the thread is wound higher than the brass ends of the bobbin.

A DROP OF OIL should be placed as indicated by the arrows marked "oil."

When through winding the bobbin, push the bobbin winder back against the arm of the machine and turn the thumbnut on the hand wheel away from you until it is tight and the machine will be ready for sewing.

To Set the Needle

Raise the needle bar to its highest point and loosen the needle clamp screw. Hold the needle between the thumb and first finger of the left hand and pass the shank of the needle up through the hole in the needle clamp **AS FAR AS THE STOP PIN, WITH THE FLAT SIDE OF THE SHANK TOWARD THE NEEDLE BAR.** After setting the needle, turn the hand wheel until the needle passes part way through the hole in the needle plate and then tighten screw securely.

Never leave the screw loose, nor the needle partly out of its socket. Never use a needle with the point blunted or turned over.

Threading the Shuttle

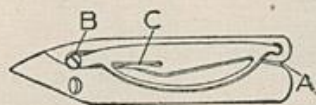


Figure 5

Hold the shuttle in the left hand with the point to the left and tension spring uppermost. Take the bobbin in the right hand and drop it into the barrel of the shuttle, with the thread drawing toward you from the lower end and over the upper side of the bobbin. Draw the thread through the slot (A) at the heel of the shuttle and, with the forefinger of the left hand, hold the bobbin gently in place, drawing the thread down until it passes under the point (C).

Leave about three inches of thread hanging from the shuttle.

Regulating the Tension

When the sewing machine leaves the factory the tensions are properly regulated for all ordinary sewing. To get the best results never use coarser thread than No. 70 unless you are sewing on very heavy material.

Seldom, if ever, change the tension on your shuttle. If it is necessary to change the tension do so by turning the tension regulator nut (8) on side of arm in Figure 1, page 2. Make a quarter turn, then sew a short distance, after which, if it is necessary to do so, you can turn the thumb-nut another quarter, and so on until you obtain the desired result. If it is necessary to change the shuttle tension, follow the same procedure, turning the tension regulator screw marked B on Figure 5.



Figure 6

For ordinary stitching the upper and under threads should be locked in the center of the thickness of the material as shown by Figure 6.



Figure 7

If the upper thread is held too tightly, by its tension, or if the under thread is too loose, the thread will lie straight along the upper surface of the material as shown in Figure 7.



Figure 8

If the under tension is too tight or the upper tension too loose, the thread will lie straight along the under side of the material as shown in Figure 8.

NOTE—As the automatic tension release is in operation when the presser lifter is raised, any adjustment of the upper tension must always be made with the presser foot down.

Belt

If the belt is too tight, the effect is to make the machine run hard. It should be just tight enough so that it will not slip when the hand wheel is revolving. If the belt is too loose, remove one end of the hook, cut off a short piece and connect the belt. Keep the belt as free from oil as possible, because oil will cause the belt to rot.

Needles and Thread

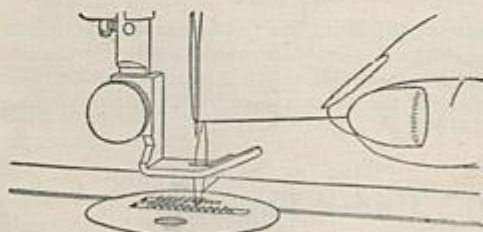
Use good needles and thread. First, select the thread to suit the goods; then the needle to suit the thread, according to the table below. Remember not to use too large a size of thread for the work, because the coarser thread will not sink into the material and make as pretty a stitch as fine thread.

When sewing two thicknesses of calico or shirting, No. 70 cotton is stronger than the thread woven in the fabric and will make a pretty stitch. The seam will also wear longer than if coarser thread is used.

The following table will be found useful as a general guide, which may be varied as experience and judgment suggest:

Materials	Size of Cotton	Size of Silk	Size of Needle
Thin muslins, cambrics, linens, etc.	150-300	000	00
Fine calicoes, fine silk goods, shirtings, etc.	90-150	00	0
Sheetings, muslins, silk, general work.....	60-90	O-A	1
Light woolens, heavy silk, seaming, stitching, etc. ...	40-60	B	2
Tickings, woolen goods, flannels, boy's clothing....	30-40	C	3
Heavy woolens, bags, heavy clothing in general...	20-30	D	4

To Prepare for Sewing



Before commencing to sew, raise the presser foot and take hold of the end of the needle thread, leaving it slack from the end of the needle; turn the balance wheel toward you until the needle moves down, and up again to its highest point. The needle thread has then been carried around the under thread, which can be drawn up through the hole in the throat plate by the needle thread as shown in the illustration, and both should then be laid back under the presser foot.

The best results are obtained when both the upper and under threads are the same size and quality. Many people use too large threads when sewing light fabrics; for example, it is impossible to make a good looking stitch on any machine with, say, No. 40 cotton when sewing two thicknesses of calico or shirting. No. 70 cotton is stronger than the fabric and will make a handsome stitch.

To turn a corner, stop the machine while the needle is still in the cloth, raise the presser foot and turn the corner, using the needle as a pivot.

For sewing flannel or bias seams use a short stitch and light tensions so that there will be sufficient thread in the seam to allow the goods to stretch, if necessary.

To Alter the Length of Stitch

On the arm of the machine, behind the bobbin winder, is a thumbnut called the stitch regulator. The figures indicate the number of stitches to the inch. For all ordinary purposes No. 16 stitch gives good results. On heavy work the stitch should be lengthened.

To Remove Work

To remove the work, raise the needle bar to its highest point, raise the presser foot with the right hand, with the left hand draw the fabric about 3 inches in a straight line with the back shuttle slide, passing both threads over the thread cutter with a slight downward pressure, and they will be cut close to the end of the stitch.

To Avoid Breaking the Needles

Never pull the material while operating the machine. When a needle is broken it is in nearly every case the fault of the operator, caused by pulling the fabric so that the needle bends and strikes the needle plate.

Breaking the Upper Thread

This may be caused by improper threading of the machine, the upper tension being too tight, needle being too small for the thread, the needle being set the wrong side out or set crooked, or by a sharp edge on the shuttle or the needle rubbing against the presser foot, or the point of the needle being blunted or turned over.

Breaking the Under Thread

This may be caused by the tension being too tight, bobbin being wound too full so it will not revolve freely, by presence of lint or dust in the end of the shuttle which forces the bobbin against the shuttle carrier spring and keeps it from revolving, by a sharp place on the edge of the shuttle spring or on the heel of the shuttle, or by failing to keep the shuttle race clean.

Skipping Stitches

Should there at any time be skipping or long stitches at intervals it is owing to the needle being set too low or its having become bent away from the shuttle, or its being too small for the thread in use, and sometimes because the point of the shuttle becomes accidentally blunted. Never use a needle with the point blunted or turned over.

The Attachments

Few people realize how easy it is to operate the attachments, and because no effort is made to learn, or a wrong start is made, they neglect to take advantage of the opportunities which the attachments afford. We now offer suggestions which we hope will be followed by every woman who purchases a sewing machine. If you make an earnest effort to learn how to use the different attachments we are sure you will use your sewing machine twice as much as you would if you did not know how to use and operate them. With the different attachments there is no end to the variety of the work which you can do with your machine. Remember that the successful operation of the attachments comes through practice, and you must not expect to make a shirt waist or dress by means of the attachments without first practicing their uses and knowing just what they can do. We recommend that you purchase material and practice the various operations of the different attachments, and as a guide we suggest that you buy the following materials:

One yard of white Lonsdale cambric cut into strips 1 inch wide. These strips are most useful in learning the operation of the ruffler.

One-half yard of Persian lawn or similar material; $\frac{1}{4}$ yard of batiste. Cut these into 10 or 12-inch squares and practice tucking and shirring; then after some of this material has been shirred or different styles of tucks have been made (see page 10 for tucking and page 9 for shirring), the edges of the squares may be bound by use of the binder (see page 12).

One roll of bias binding $\frac{3}{8}$ inch wide will be sufficient to learn how to use the binder.

One strip of Fruit of the Loom heavy muslin, $\frac{1}{2}$ yard wide, cut cross-wise, will give you sufficient cloth for learning the operation of the set of hemmers.

One bunch of cotton soutache braid for learning the use of the under braider.

Three or four squares of some heavy and rather stiff material, stamped with a design, would, in connection with the braid, be sufficient for learning the operation of the under braider.

Remember that practice makes perfect. If you buy these materials and learn the different uses of the attachments we are sure that you will get a great deal more use out of your sewing machine and that you will make a great many things at a considerable saving in money which you would not do if you did not know how to operate the attachments.

The Ruffler

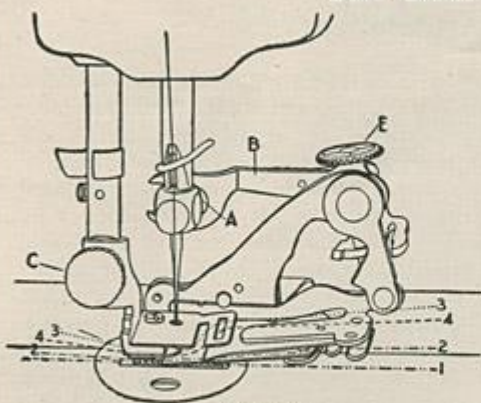


Figure 9

Line 2—The piece to be gathered.

Line 3—The heading, or upper piece, when ruffling between two pieces.

Line 4—The strip of piping.

The thumbscrew (E) regulates the fullness of the ruffle.

Remove the presser foot and attach the ruffler in its place on the presser bar with the fork of the ruffler lever (B) around the needle clamp screw (A), then tighten the attachment holder thumbscrew (C).

Turn the hand wheel slowly and see that the needle passes down through the center of the round hole in the foot of the ruffler.

The lines 1, 2, 3 and 4 show how to place the different pieces of cloth under the ruffler.

Line 1—The lower piece or band to which the ruffle is sewed.

Ruffling

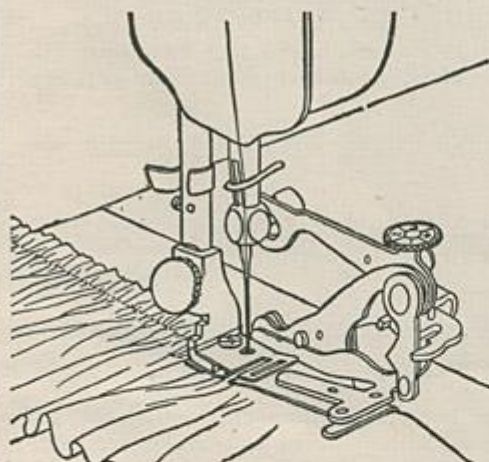


Figure 10

Place the goods to be gathered between the ruffler blade and the separator blade and push forward until under the foot; lower the presser bar and commence to sew.

To make a fine ruffle, shorten the stitch and turn the adjusting screw (E) to the right one-quarter turn at a time until the ruffle looks satisfactory.

To make a full gather, turn the adjusting screw (E) to the left and use a short stitch. By regulating the adjusting screw (E) and the length of stitch you can make all variations from the very scant to the full ruffle.

Never try to regulate both the adjusting screw (E) and stitch at the same time.

If the ruffle is to be sewed on to the band, place the band under the separating blade. See "Line 1," Figure 9.

NOTE—The ruffler should never be used without cloth between the blades.

To remove the work see page 6.

Ruffling and Sewing On

Place goods below both blued blades on feed of machine and up over first guide. See "Line 1," page 8. Place material to be ruffled as in "plain ruffling," under second guide. See "Line 2," page 8. Proceed as in plain sewing, being careful to keep the goods smooth and straight.

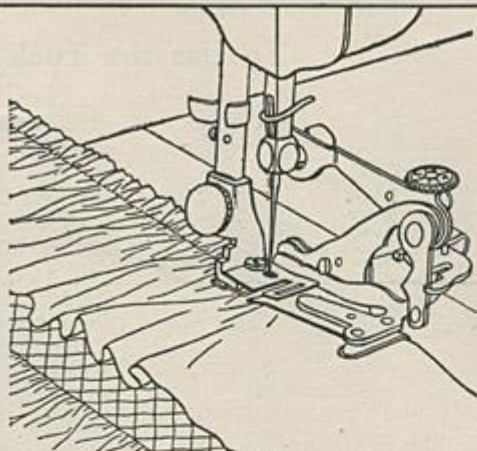


Figure 11.

Ruffling, Sewing On and Putting On Facing at One Stitching

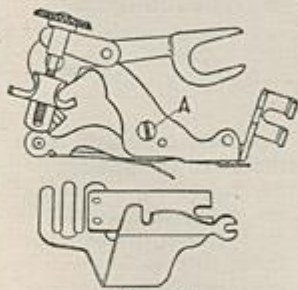


Figure 12.

Place goods and material to be ruffled exactly as in "ruffling and sewing on." Place facing over the blued blades and under the foot, see "Line 3," page 8, and proceed as usual, being careful to keep goods and facing straight and smooth.

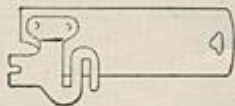


Figure 13.

Shirring

Remove the front shuttle slide and insert the special shuttle slide with shirring plate attached (Figure 13). Before attaching the ruffler to the presser bar, loosen the screw (A), Figure 12, back of the ruffler, take off the separating blade, as shown in Figure 12, then attach the ruffler to the presser bar.

Place the goods between the shirring blade and the ruffler blade and proceed the same as in ordinary ruffling.

Use the quilter as a guide for subsequent rows of shirring, or by creasing the cloth before starting

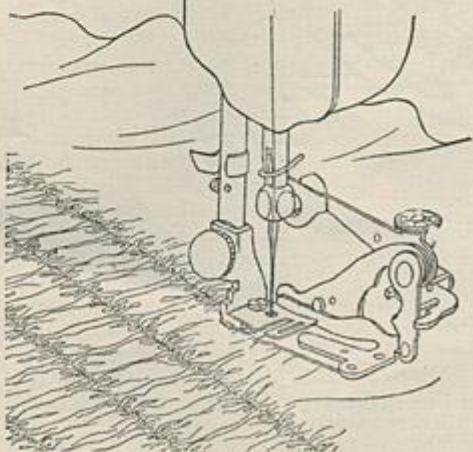


Figure 14.

to shirr, the creases will act as a guide for the stitching.

To Use the Tuck Marker

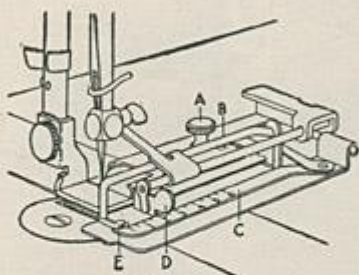


Figure 15

Raise the presser bar, remove the presser foot and attach the tucker in its place so the needle passes down through the center of the round hole in the foot of the tucker.

To regulate the size of the tuck, loosen the screw (A) and place the gauge (D) for any desired width, moving to the right for wide and to the left for narrow tucks.

To regulate the space between the tucks, move the marker (C) to the left for wide space and to the right for narrow.

The figures on the scale B show the width of the tuck and those on scale C the width of space.

By adjusting gauge B and gauge C so that the scale indicators will point to the same figure, it will make the tucks just meet. When the adjustments have been made be sure to turn screw (A) down tight.

Tucking

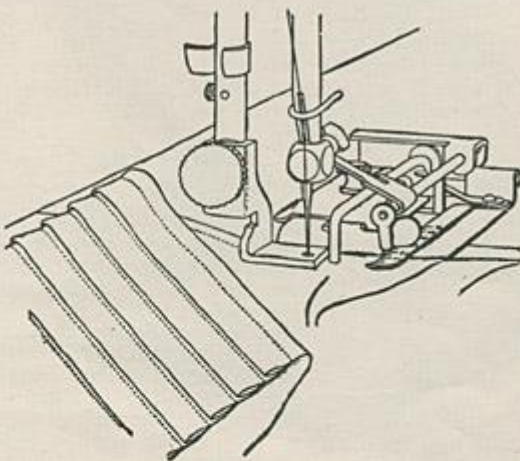


Figure 16

After attaching the tucker to the presser bar and adjusting it so that the width of the tuck, as well as the distance between the tucks, will be made the size desired, proceed to make the first fold by hand and crease it carefully for its entire length. After creasing the first fold, insert it into the tucker from the left, with the cloth to be tuck ed uppermost, as shown in Figure 16. Lower the presser bar and proceed to sew, keeping the crease against the guide (D), Figure 15. When the tuck is finished, flatten it away from the crease so that it lies in the

proper direction, and proceed in like manner for the next tuck, creasing it along the line made by the marker, always placing the edge of the last tuck under the hook in front of the marker (see letter E in Figure 15, above). This is done by moving the goods just a little to the right and back again without raising or lifting the material.

Wide Hemmers

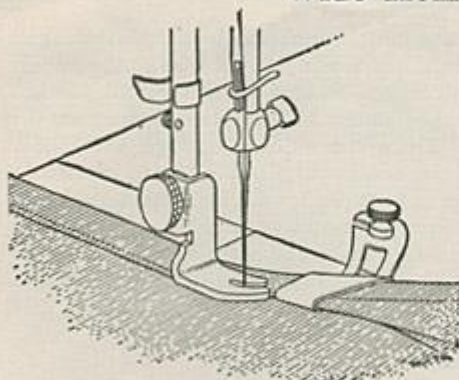


Figure 20

Four widths of hemmers are included in the regular set of attachments. The wide hemmers are set in place by means of the bedplate thumb-screw. BEFORE TIGHTENING THE THUMB-SCREW see that the hemmer is far enough to the left so that the needle will pass through the cloth as it leaves the hemmer. Fold the goods by hand the width of hem required, turning one fold only, adding about $\frac{1}{8}$ inch, which will be turned under by the hemmer. Then insert the goods in the hemmer, forcing it back until the needle will

catch the edge of the goods. Lower the presser foot and sew as usual. Slightly press on the goods with two fingers of the left hand. If more goods are required to fill the hemmer and turn the edge properly, slightly carry the goods to the right; if too much goods are taken, carry to the left.

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To Attach the Binder

Raise the needle to its highest point; attach the binder, fastening it securely with the thumbscrew. Fold the binding lengthwise in the middle for a distance of about 4 inches from the end, creasing the fold. Insert the crease into the opening of the binder, holding the binding as the cloth is held in starting a hem. Draw the binding through the binder with the left hand until it fills the scrolls of the binder, as shown in Figure 21 below. If the binding cannot be forced into the scrolls use a pin or the small shuttle screwdriver, by means of which it can be drawn into the scrolls far enough so that the needle can pass through the binding. Lower the presser bar, insert the edge of the cloth to be bound into the opening of the binder and proceed to sew, guiding the binding with the right hand and the cloth with the left, keeping the edges well within the opening of the binder, as shown in the illustration.

To Do Bias Binding

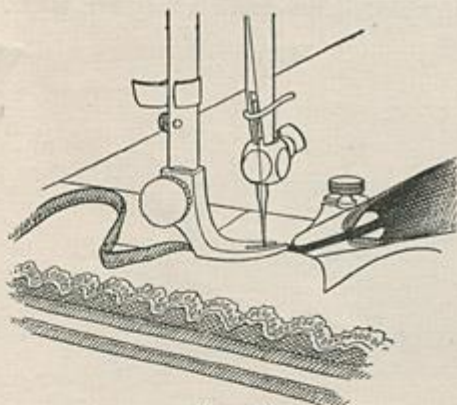


Figure 21.

Pass the binding through the scrolls of the binder and draw it back under the needle. Place the edge of the material to be bound between the upper and lower scrolls, then lower the presser bar and sew as usual. Guide the cloth with the left hand and let the binding glide easily through the fingers of the right hand to keep it straight. For bias binding, goods of any description can be used, $\frac{7}{8}$ inch wide and uniform in width. If very light sleazy material is used the binding should be cut a little wider than $\frac{7}{8}$ inch in order to have the edges properly turned in.

To Do Dress Binding

Ordinary dress binding can be used in the binder by the same method as described above. When such binding is used the edge of the binding will not be turned under.

Quilting

Loosen the quilter screw enough to allow the insertion of the quilter through the presser bar from the right, fastening it the desired distance from the needle by means of the quilter screw. Fold a crease in the cloth to be quilted as a guide for the first line of stitching, thereafter guiding each succeeding line by holding the cloth so that the last line of stitching made is run directly under the guide, as shown in Figure 24.

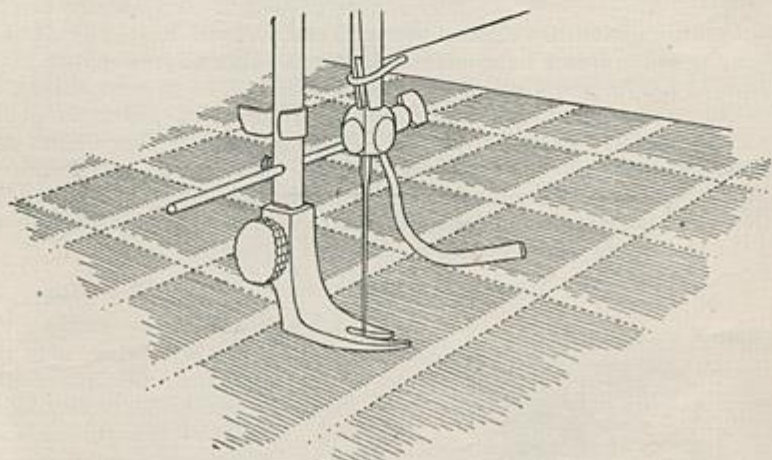


Figure 24.

Nickel Plated Sewing Machine Needles.

It is very important to use only the very best needles. A machine will not give satisfaction if you use poorly made needles. Order your needles from us and get high grade nickel plated needles, guaranteed not to rust. We sell them for less than you are asked to pay for poorly made needles.

We do not sell needles for special manufacturing machines.

In ordering needles be sure to send a sample stuck in a small piece of cloth or heavy cardboard to prevent its being lost; also mention the name and head number of machine. No order will be filled for less than one dozen needles.

OUR NEEDLES ARE PUT UP IN PACKAGES OF TWELVE, IN ASSORTED SIZES, AND TEN OF THE TWELVE NEEDLES ARE SIZES USED FOR SEWING FROM 40 TO 100 THREAD.

Sewing Machine Oil.

To get satisfactory results with your sewing machine you must keep the working parts clean and use the proper kind of oil.

Heavy oil and oil which gums and gets sticky will make your machine run hard.

When you need oil, refer to our Catalog and include an order for a can of sewing machine oil. If you apply the oil according to the directions given in this book your machine will always run easy and last a lifetime.

Sewing Machine Belts.

Very often leather belts, after being used for a time, stretch, and of course you cannot get the same results with a loose belt, as you will when the belt is fairly tight. Should this happen to your machine, open the hook and cut about $\frac{1}{2}$ inch off the belt. Then, with a small nail, make a hole in the end of the belt and fasten the hook.

You will always find listed in our big General Catalog amongst the sewing machine supplies, belts for sewing machines. You may rely upon getting the best quality leather belts at a saving in price.

Should you, at any time, find it necessary to write us about your sewing machine, or when you are in need of supplies, always be sure to mention the name and model of your machine, as well as the head number.

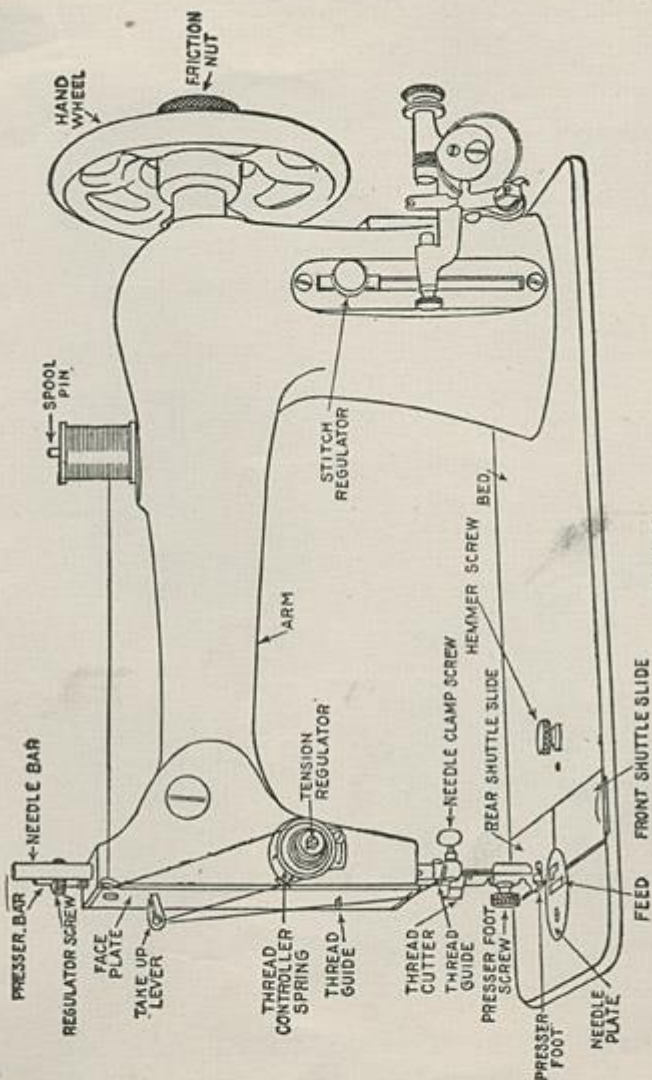


Figure 25.

The above illustration has been prepared for the convenience of the operator of this Sewing Machine. By referring to this illustration it will be easy for you to become familiar with the names of the different parts of your sewing machine, so that in case it should be necessary at any time to write to us, you will be able to give us the names of the different parts, and we will understand your letter and be in a position to give you better service.

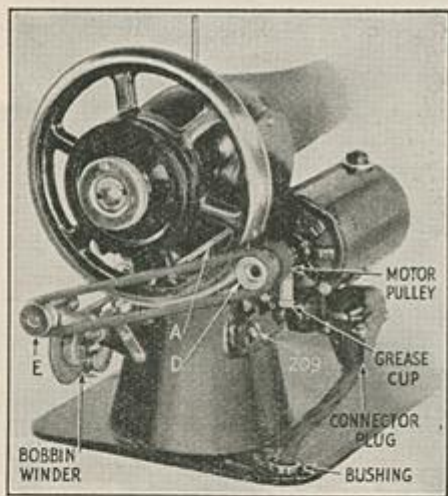
TO MOUNT ELECTRIC SEWING MACHINE HEAD ON CABINET

Mount head on head hinges (which will be found permanently attached to the cabinet) by inserting the round shank of the head hinge into lug holes in the bed of machine (see Fig. 2), then tip head back and tighten head hinge set screws in bed of machine (see Fig. 2). Pull bushing up on motor cord as near to the motor as possible and slip motor cord into slot at corner of bed plate and push bushing back into hole in bed plate (see illustration), thereby retaining cord in bed plate. Next, connect the three contact connector plug to motor terminal as shown in illustration. Next, unwind the long wall plug cord inside of cabinet and connect it in any electrical outlet. Machine is then ready for operation.

PREPARING MOTOR FOR USE

1. Remove pulley from spool pin.
2. Place pulley on motor shaft (rubber end toward motor).
3. Tighten set screws in pulley.
4. Remove the air felt pad from between motor and the arm of the machine so the spring on motor bracket can force the rubber pulley against the hand wheel.

NOTE: Be sure that screws No. 209 are tightened securely.



MOTOR

Use on either direct or alternating current, 110 to 115 volts up to 75 cycles.

SPEED CONTROL

The desired sewing speed is obtained by pressing the knee lever or the foot pedal (depending upon type of machine). Removing pressure from the lever or pedal automatically stops the machine.

LUBRICATION

Two cups (one at each end of the motor shaft) provide for motor lubrication. Unscrew caps and fill with vaseline occasionally depending upon the use of machine.

WINDING BOBBIN (ELECTRIC MACHINE)

1. Swing the bobbin winder upward until rod "A" (see illustration) forces motor pulley out of contact with hand wheel.
2. Apply rubber belt to grooved pulley "D" (Illustration) on motor and pulley "E" on bobbin winder.
3. Proceed as per instructions for winding bobbin on page 3.
4. After bobbin is wound, remove belt and swing bobbin winder down as far as it will go.

IMPORTANT—Rubber belt to be used for winding bobbin only—not for operating sewing mechanism.



