

INSTRUCTIONS

For Operating the

MINNESOTA

Model "E"

SEWING MACHINE

Model Number 117.48



SEARS, ROEBUCK AND CO.

"The World's Largest Store"

TO INSTALL SEWING MACHINE HEAD ON CABINET

Place the head on top of open cabinet and slide head hinge lug holes (Fig. 2) over round shanks of the two hinges attached to back of cut-out in top of cabinet. Tip head back and tighten head hinge set screws (Fig. 2) securely.

Pull bushing up on motor cord as near to the motor as possible and slip motor cord into slot at edge of bed plate and push bushing back into hole in bed plate (see Fig. 3A). Unwind the extension cord inside the cabinet, plug into any base plug outlet, and the machine is ready for operation.

If machine is treadle operated, merely place leather belt around hand wheel drive pulley as of course there is no motor or electrical connections.

Certificate of Guaranty

This is to Certify that this sewing machine is guaranteed to be perfect in material and manufacture, and to be perfect in operation if properly managed. This machine has been carefully inspected and adjusted, and there are no defects in material or workmanship. It has been delivered to the transportation company in perfect condition, carefully packed and we guarantee it to reach your station in good order.

In the event that working parts prove to be defective in material and workmanship, they will be exchanged free of charge. Natural wear and tear on any of the parts is not considered a defect in material or workmanship.

We guarantee the electrical equipment on this machine, if any, for one year, in keeping with the general practice covering electrical goods.

This guarantee does not apply to attachments, or the breaking of needles, shuttles, bobbins or belts.

When referring to this guarantee please do not fail to state Model Number of the machine.

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shown in Figure 2. Figure 3 shows the parts of the stand to be oiled, and applies to treadle machines only.

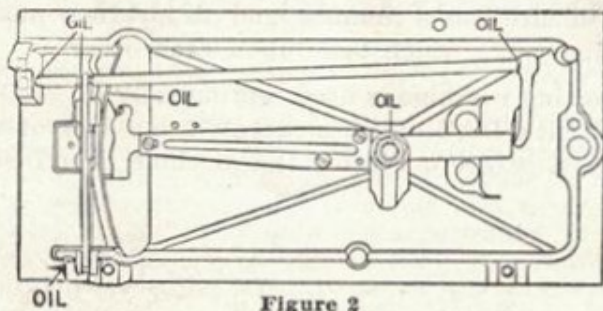


Figure 2

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

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.

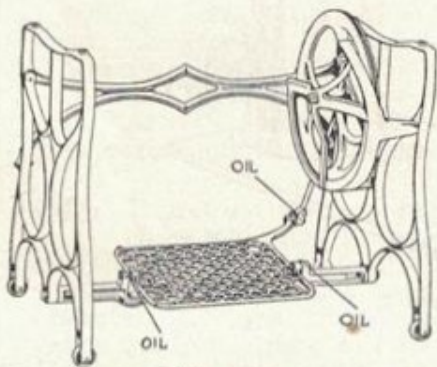


Figure 3

Be sure to use only good quality sewing machine oil.

How to Prepare Motor (Electric Machine)

1. Place pulley on motor shaft (rubber end toward motor).
2. Tighten set screw in pulley.
3. 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 (see Figure 3A) are tightened securely.

Motor Lubrication

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

Motor

The motor can be used on either direct or alternating current, 110 to 115 volts up to 75 cycles.

Control

The desired speed is obtained by pressing downward on foot pedal of the rheostat, and raising the foot automatically stops it. If machine is equipped with knee-lever control, the speed is regulated by pressing knee against the lever.

Running Machine (If Treadle Operated)

Loosen the friction nut, Figure 3A, so the handwheel will turn free. Raise the presser foot and take out the shuttle (see Figure 5). 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 friction nut, Figure 3A, 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)

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 in 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.

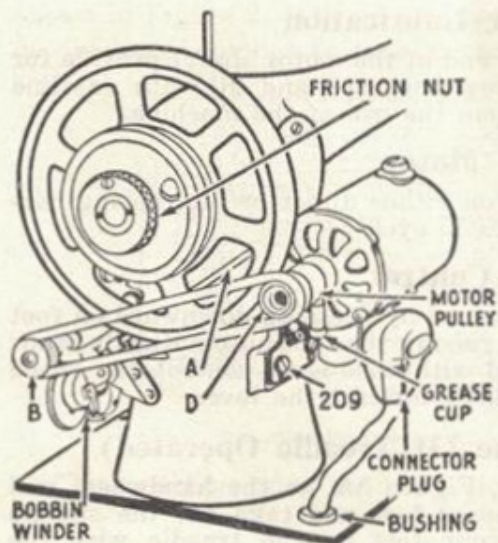


Figure 3A

How to Wind Bobbin on Electric Machine

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

How to Wind Bobbin on Treadle Machine

Hold handwheel with the left hand while loosening friction nut (Figure 3A) with the right hand. This will release the sewing mechanism of the machine. Pull bobbin winder toward you until the small pulley wheel (B), Figure 4, comes in contact with the belt. Operate the machine until the distributor (C) is as far to the right as it will go. Place one end of the bobbin in the socket of the spindle (E) and the other end of the bobbin in the socket of the step (F), pulling the step nut (G) out 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 (C), then to the lower end of the distributor to the slot (H), then up over eyelet (2), Figure 1, placing the spool on the spool pin. Run the machine as previously instructed and the bobbin will automatically wind. Be sure to

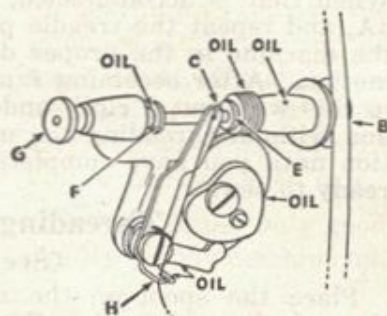


Figure 4

stop winding before the thread is wound higher than the brass ends of the bobbin.

A DROP OF OIL should be applied to places indicated by the arrows marked "oil."

When through winding the bobbin, push the bobbin winder back against the arm of the machine, tighten the friction nut on the hand wheel 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. If the needle is blunt, bent, or not set properly it will probably cause skipped stitches.

To Take Out the Shuttle

Withdraw the front shuttle slide and turn hand wheel of machine until shuttle is at the front end of its swing. This will permit easy removal of the shuttle; lifting it out from back end. Do not take hold of the spring on top of shuttle, and never use any tools to raise the shuttle when removing it. Use fingers only.

Threading the Shuttle

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 push it into the barrel of the shuttle, with the thread drawing toward you from the inside end and over the upper edge 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 in place, drawing the thread to the left until it passes under point (C) and comes back out through hole at end of slot. Leave about 3 inches of thread hanging from shuttle.



Figure 5

Regulating the Tension

Any adjustment of the upper tension must be made with the presser foot down, as the automatic release removes all tension when the presser foot is lifted. To change the upper tension, turn the tension regulator nut (No. 8 in Figure 1). Whether increasing or decreasing tension, always turn the thumb nut only about one-quarter of a turn at a time, then sew a short distance; repeating the operation until desired tension is obtained. The lower tension is regulated by a small screw (B, Figure 5) which can be tightened or loosened—but only a little bit at a time—to increase or decrease tension on the lower thread. After this tension is properly set it is rarely, if ever, necessary to change it.



Figure 6



Figure 7



Figure 9

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.

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.

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.

Needles and Thread

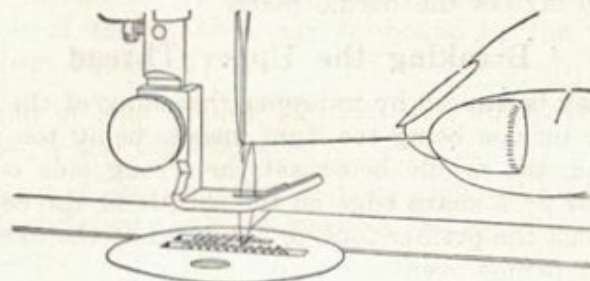
Use good needles and thread. First select the thread to suit the goods; then the needle to suit the thread. Remember not to use too large a size of thread for the work, because the coarser thread will not sink into the material and make as pretty a stitch as fine thread.

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

Materials	Cotton Thread	Silk Thread	No. of Needle
Fine linens, lawns, etc.....	150 to 300	000	00
Fine linen underclothing.....	90 to 150	00	0
Muslin or linen.....	60 to 90	0 & A	1
Dressmaking.....	40 to 60	B	2
Woolen clothing and flannels	30 to 40	C	3
Heavy woolen clothing.....	20 to 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.

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

The stitch regulator is located on the arm of machine behind the bobbin winder (No. 9, Figure 1). Loosen thumb screw and move pointer up to lengthen the stitch; down to shorten. For most purposes a stitch set at No. 16 on the regulator 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 and with the left hand draw the fabric back 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 Needle

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.

DIRECTIONS FOR USING ATTACHMENTS

(If Furnished With This Machine)

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 anything 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 cambric cut into strips 1 inch wide. These strips are most useful in learning the operation of the ruffler.

One-half yard of 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 Figures 15 and 16 for tucking and Figure 14 for shirring), the edges of the squares may be bound by the use of the binder (see Figure 21).

One roll of bias binding $\frac{7}{8}$ -inch wide will be sufficient to learn how to use the binder.

One strip of heavy muslin, $\frac{1}{2}$ -yard wide, cut crosswise, 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.

The Ruffler

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.

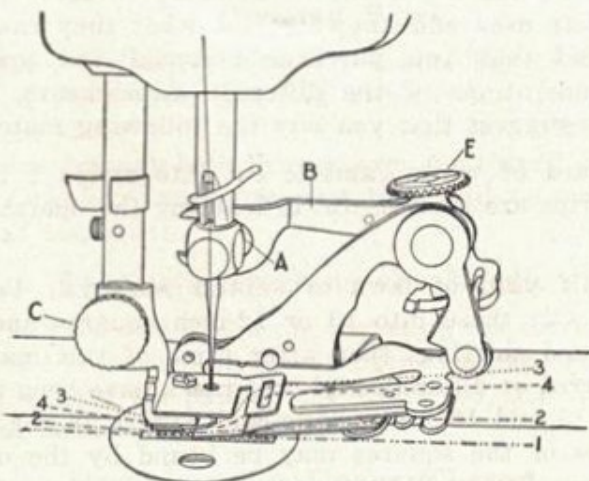


Figure 9

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.

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.

Ruffling

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.

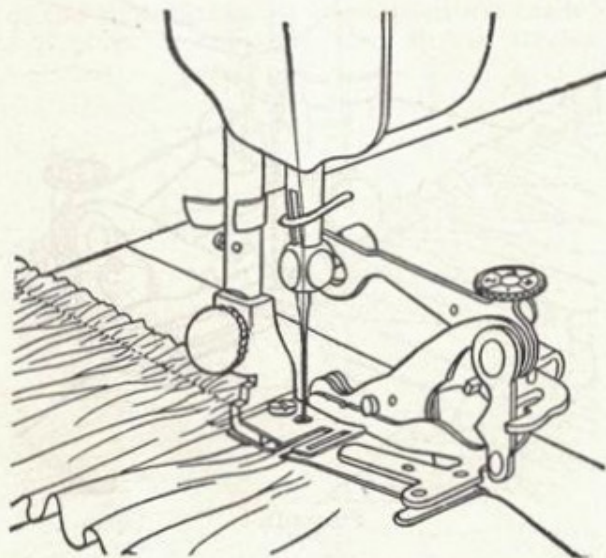


Figure 10

To make a full gather, turn the adjusting screw **E** to the left and use a short stitch. By regulating the adjustment 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 10.

Ruffling and Sewing On

Place goods below both blades on feed of machine and up over first guide. See "Line 1," Figure 9. Place material to be ruffled as in "plain ruffling," under second guide. See

"Line 2," Figure 9. Proceed as in plain sewing, being careful to keep the goods smooth and straight.

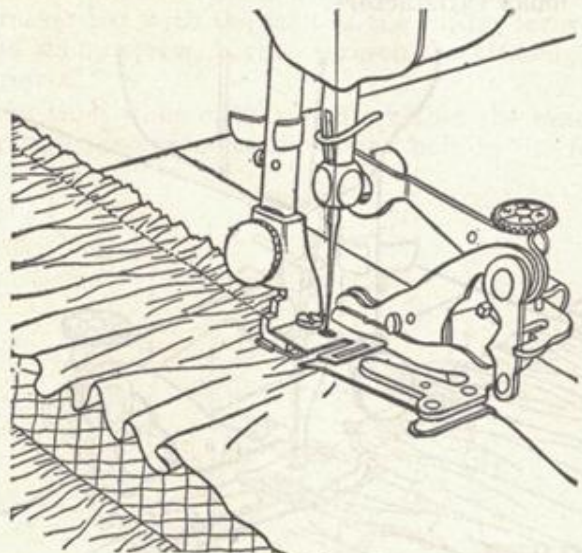


Figure 11.

Ruffling, Sewing On and Putting On Facing

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," Figure 9, and proceed as usual, being careful to keep goods and facing straight and smooth.

Shirring

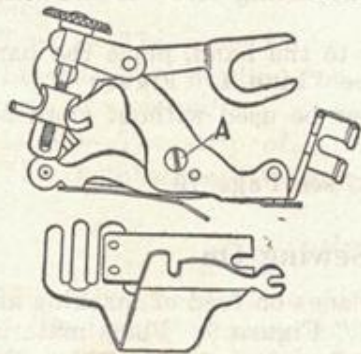


Figure 12.

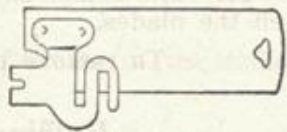


Figure 13.

Shirring (Cont'd)

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.

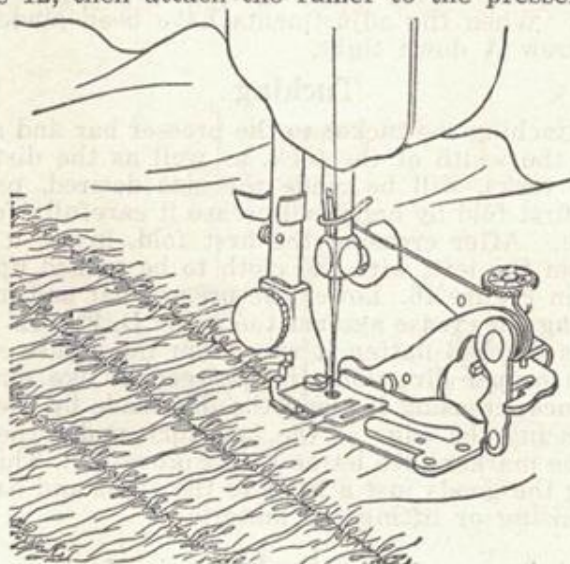


Figure 14.

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

To Use the Tuck Marker

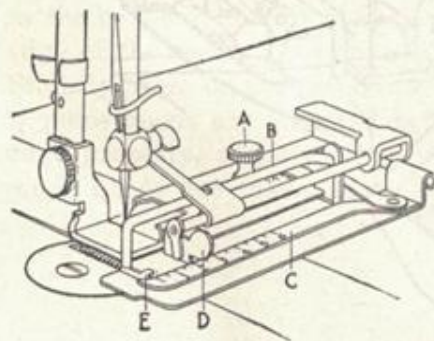


Figure 15

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

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 tucked 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). This is done by moving the goods just a little to the right and back again without raising or lifting the material.

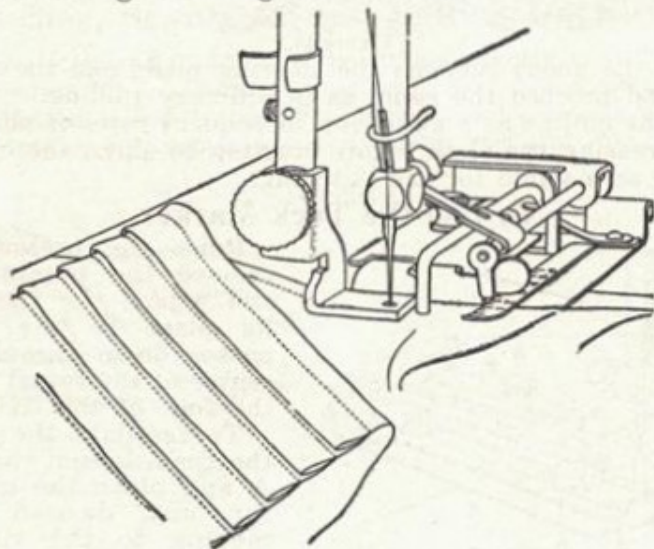


Figure 16

Wide Hemmers

The width of the hem it makes is stamped on each one of the hemmers. The wide hemmers are set in place by means of the bedplate thumbscrew. BEFORE TIGHTENING THE THUMBSCREW see that the hemmer is far enough to the

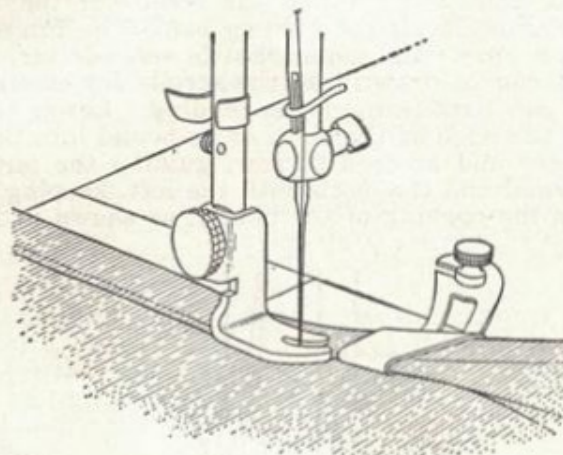


Figure 20

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.

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. 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 Figure 21.

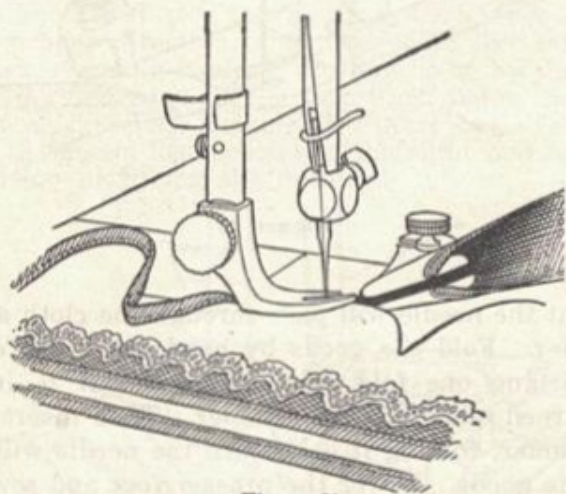


Figure 21.

To Do Bias Binding

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, $\frac{3}{8}$ -inch wide and uniform in width, if very light, sleazy material is used the binding should be cut a little wider than $\frac{3}{8}$ -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.

Underbraiding

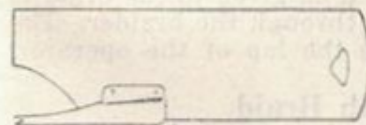


Figure 22

Use the short prong braider foot in place of the regular presser foot. The underbraider is placed in position by removing the front shuttle slide and putting in the special slide with the underbraider attached (Figure 22). Before pushing it into place be careful to put the braid into the channel of the attachment with enough projecting from the end to insure its coming under the needle and presser foot. Use a No. 1 needle and about 16 length of stitch. The pattern should be marked or stamped on the wrong side of the material. Place the goods

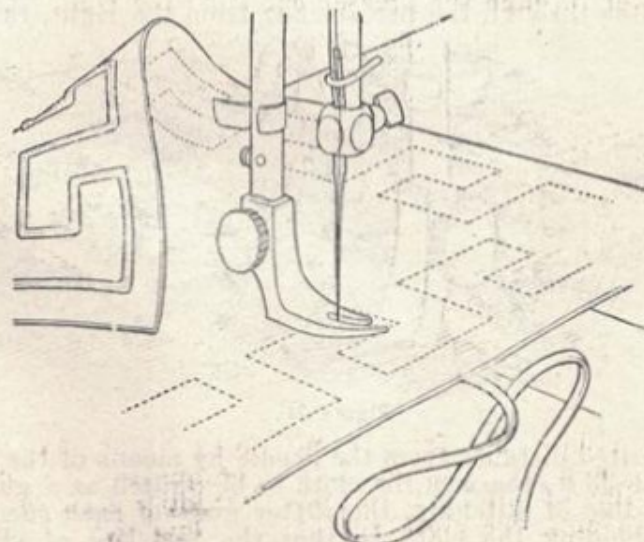


Figure 23

under the presser foot, with the **PATTERN SIDE UP** (See Figure 23), and so the needle will be directly over the point where you desire to commence braiding. Lower the presser bar and sew as usual, guiding the material so the needle will follow the pattern. The braid will be stitched on the under side of the goods, as shown in Figure 23.

To make a square or sharp angle, sew to the point of turning; stop the machine while the needle is still in the cloth, slightly raise the presser foot and swing the cloth around on the needle. Care must be taken in turning the cloth not to pull the needle, thereby causing it to strike the plate and bend or break.

NOTE—All the attention that need be given to the braid is to have it pass freely and smoothly through the braider. The bunch or spool of braid may lie in the lap of the operator.

To Applique With Braid

Baste the goods to be appliqued on the background. Have pattern on wrong side of background. Braid design as above and cut out the upper goods around the design. This leaves the design appliqued on the background.

Quilting

Loosen the quilter screw enough to allow the insertion of the quilter through the presser bar from the right, fastening

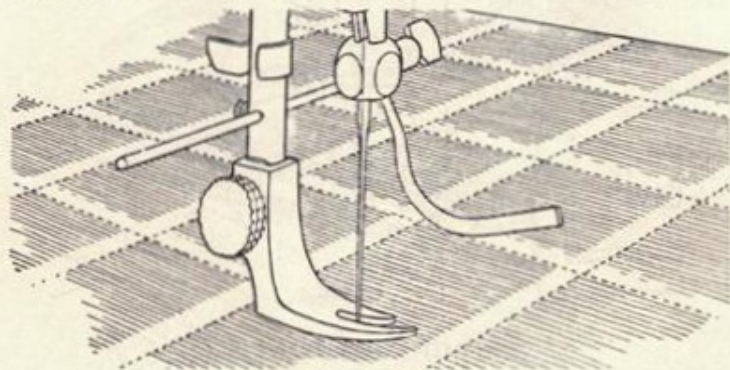


Figure 24

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.

PARTS LIST

PART NAME	Shipping Weight Lbs. Oz.	Selling Price Each
Cam and worm wheel assembly	4	.50
Needle clamp and screw assembly	2	.30
Screw (for 0216 presser bar lifter)	2	.05
Screw (to fasten 0342 feed to feed carrier)	2	.05
Screw (to fasten 0224 throat plate on bed)	2	.05
Screw (to fasten 0381 to shuttle lever)	2	.05
Screw (for 0175 clamp stop nut)	2	.05
Clamp stop nut	4	.30
Thumb screw (to fasten 0282 to presser bar)	2	.10
Tension adjusting stud	2	.20
Tension release pin	2	.05
Needle clamp screw	2	.10
Tension adjusting nut	2	.10
Spool pin	2	.05
Clamp stop motion washer	2	.05
Needle clamp body	2	.30
Presser bar lifter	2	.15
Presser bar spring	2	.05
Screw (to fasten 8468 face to arm)	2	.05
Throat plate	2	.50
Presser bar spring adjusting screw	2	.20
Tension disc	2	.05
Thread guide (on needle bar)	2	.05
Tension spring	2	.05
Thread take up spring	2	.10
Tension disc and regulator plate	2	.20
Tension release plate	2	.05
Bobbin winder back center spring	2	.05
Bobbin winder back center	2	.10
Bobbin winder back center nut	2	.10
Spring (for 0294 thread guide)	2	.10
Presser foot	2	.30
Thread cutter (on presser bar)	2	.05
Thumb screw (to fasten attachment on bed)	2	.10

Continued on page

PARTS LIST

(Continued)

Part No.	PART NAME	Shipping Weight Lbs. Oz.	Selling Price Each
0294	Bobbin winder thread guide	2	.15
0342	Feed	2	.50
0308	Stitch regulator	4	.35
0370	Adjusting screw (for stitch regulator)	2	.10
0371	Split washer (for 0370 adjusting screw)	2	.05
0372	Stitch regulator index plate	4	.15
0373	Stitch regulator index pointer	2	.05
0381	Shuttle carrier complete	2	.24
0383	Shuttle	2	.05
0384	Shuttle tension spring	2	.05
0385	Shuttle tension spring screw	2	.05
0392	Bobbin (set of 6)	2	.12
0563	Stitch regulator assembly	6	.50
0705	Shuttle slide plate—rear	2	.25
0706	Shuttle slide plate—front	2	.25
8467	Bobbin winder assembly	1	1.50
8468	Face plate assembly	1	.50
8474	Hand wheel	2 8	2.50

Needles, shuttles and bobbins may be selected from Sears General Catalog, or purchased through your nearest Sears retail store.

G-4412

Printed in U. S. A.

PARTS LIST FOR MINNESOTA "E" LONG SHUTTLE SEWING HEAD

MODEL NUMBER 117.48

This is the model number of your Sewing Head. It will be found on a plate attached to the front of the Bed Plate flange (beneath the Bed Plate). Always mention this model number when communicating with us regarding this Sewing Head or when ordering replacement parts.

THE CABINET

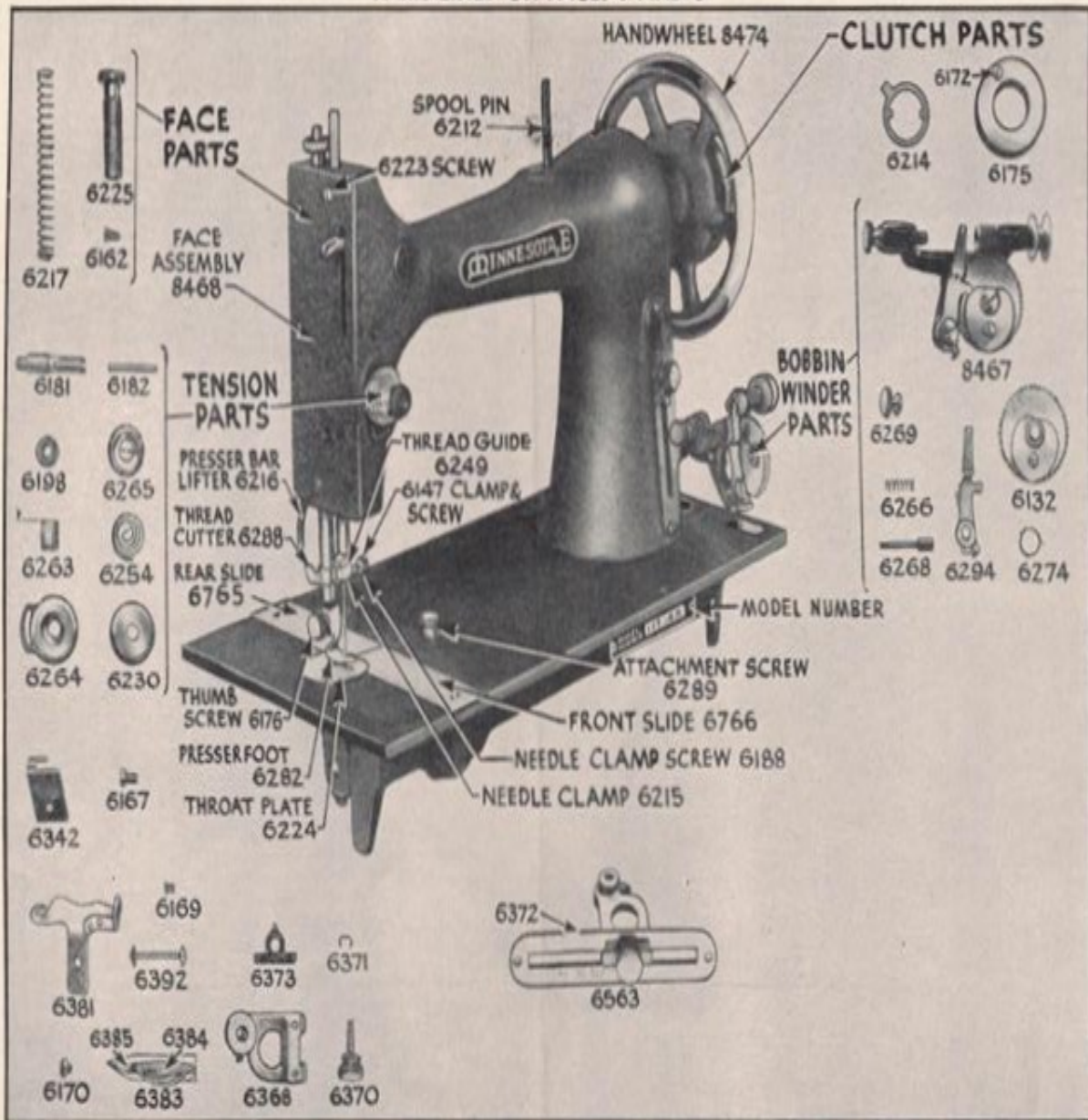
When ordering replacement parts for the cabinet of your sewing machine, or the electrical parts attached to it, give complete description and location of part, and be sure to mention the model number of the cabinet which will be found on a plate attached to the inside of the back wall. Cabinet parts may be ordered through any Sears retail or mail order store.

This list is valuable. It will assure your being able to obtain proper parts service at all times. We suggest you keep it with your Instruction Book.

SEARS, ROEBUCK AND CO.

MINNESOTA "E" LONG SHUTTLE SEWING HEAD—MODEL NUMBER 117.48

PARTS LISTED ON PAGES 5 AND 6



From time to time this sewing machine, like any other mechanical item, will require adjustment. These simple adjustments are described in the back of your instruction booklet.

In order to keep your machine in its best working order at all times, you will also find it advisable to occasionally replace certain parts which have become worn through constant use. Illustrations together with the list of parts which the average sewing machine user can easily replace are shown in this folder. Instructions for ordering these replaceable parts appear below.

If you find it necessary to make any adjustments other than those described in the back of your booklet, or if you require repair parts other than those illustrated in this folder, please contact your nearest Sears retail or mail order store.

HOW TO ORDER PARTS

All Sewing Head parts listed here, and any Cabinet parts you may need, may be ordered through any Sears retail or mail order store. In ordering parts by mail from the mail order store which serves the territory in which you live, always be sure to include sufficient postage (the weight of each part is shown on the

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

1. The part number in this list.
2. The part name in this list.
3. The Model Number, (which is 117.48, and which will be found on a plate attached to the front of the Bed Plate flange, underneath the Bed Plate).

All prices are subject to change without notice.