

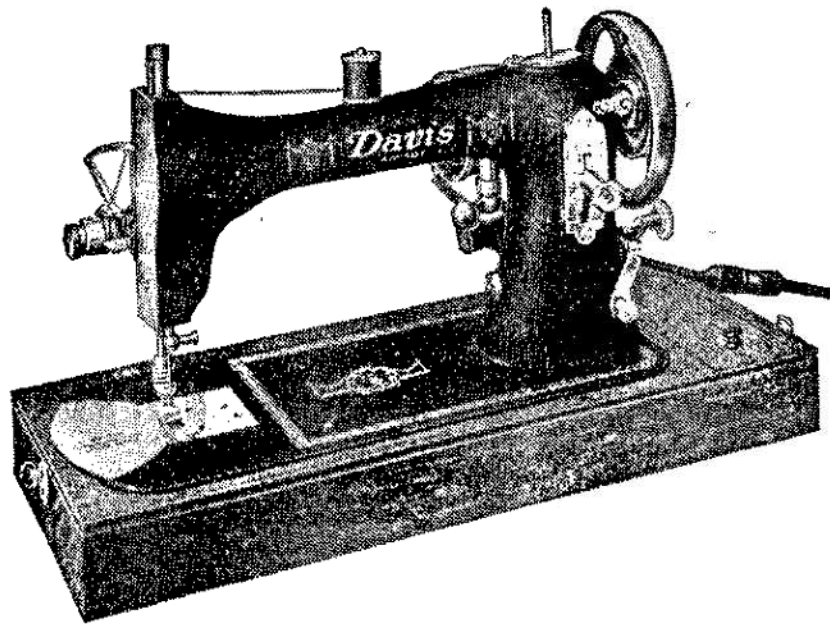
INSTRUCTION BOOK

for the

Davis

ROTARY

Portable Electric Sewing Machine



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The Davis Sewing Machine Co.

Dayton, Ohio, U. S. A.

General Instructions

PART I

1—How should the machine come when new?

The machine should come to you with a full set of attachments and accessories (see Paragraph 24) in the drawer of the base. The motor should be attached to the head, but folded back under the arm, with the foot pedal and rheostat wrapped with the connecting cord and placed on the central spool pin. All should be enclosed within the wood base and cover.

2—What should be done to get the machine ready to run?

Before the machine leaves the factory it has been carefully adjusted and tested with various sizes of thread and found to work perfectly in every respect. Do not change the adjustments until you have a thorough understanding of them as explained in this booklet.

Dust and dirt have no doubt collected on the machine, particularly around the oil holes, so clean the machine carefully with a soft cloth before starting to sew. Oil it according to the instructions under Paragraphs 5 and 6. See that the needle is set according to instructions under Paragraph 13.

Thread the machine according to instructions under Paragraphs 7 and 8. Insert a practice cloth under the presser foot. Do not attempt practical sewing until you have tried out the machine.

Never run the sewing machine with the presser foot resting on the feed teeth with no cloth between,

as the sharp teeth of the feed will injure the foot and the feed teeth will be dulled. Also there is a possibility that the thread will tangle and bend or break the needle. The machine is now ready to attach the motor.

3—What should be done to get motor ready to run?

Put the controller on the floor in a convenient position for your right foot. If the motor is under the arm, swing it around so that the small cork and fiber pulley on the end of the armature shaft comes in contact with the hand wheel.

Plug together the loose end of the short cord from the motor with the short cord from the controller. Then attach the other cord from the controller to the nearest electric light socket in the usual way, and the motor is ready to run.

A slight pressure on the foot pedal will start the motor. A greater pressure will make it run faster. Release the pressure altogether and motor will stop.

4—Will it operate on any electric light current?

The motor is wound for either direct or alternating current, 105 to 120 volts. Practically every electric light current furnished by central power stations is within the limits of these voltages, but to make sure of this it is only necessary to look at the label pasted on the light bulbs in your house. If they are marked either 105-V, 110-V, 115-V or 120-V, the current is within the right limits for this motor. Home lighting plants, or the so-called farm lighting outfits, ordinarily generate 30 volts; a special 32-volt motor can be furnished at slight additional charge for use with plants of this kind. Order the motor from your dealer.

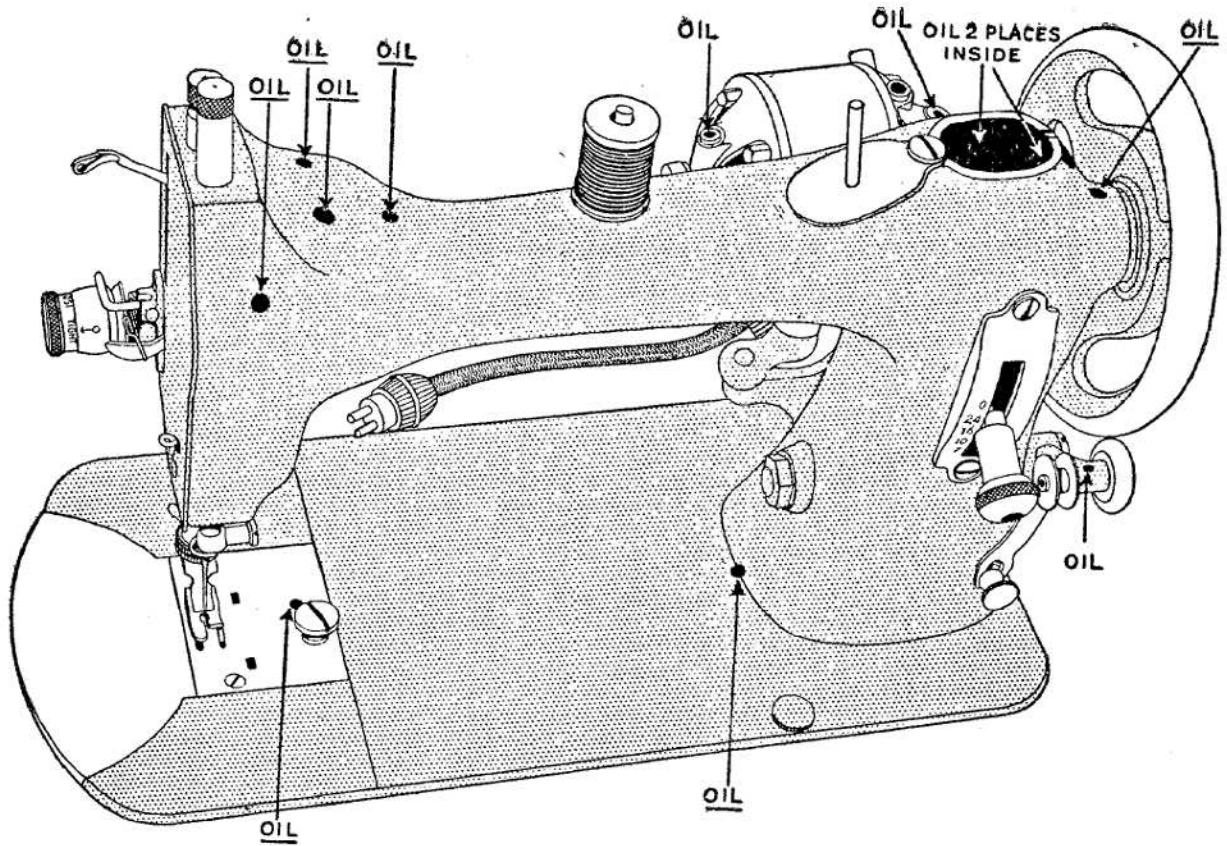


Fig. 1

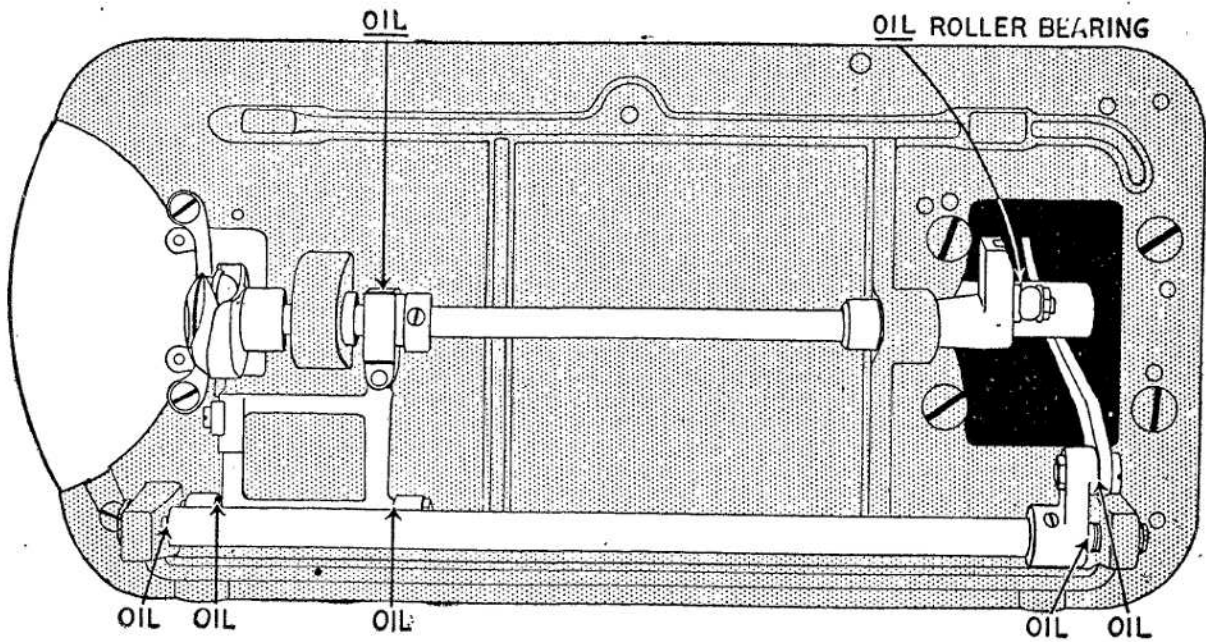


Fig. 2

5—How is the sewing machine oiled?

One of the most important points in the care of your sewing machine is keeping it properly oiled. Using good oil, and using it frequently but sparingly is the answer. The machine should be thoroughly cleaned and oiled at the beginning of each day's work. Proper attention to this insures ease of running and prevents wear.

There are nineteen places that should be oiled and these are all indicated on Figs. 1 and 6. Some points are more important than others and these points are indicated in the illustrations by underlining the word "oil." In case of doubt, oil all places where one metal part moves against another.

Oil holes will be found for all bearings which cannot be reached without them. One drop of oil is sufficient; any more is apt to gum the machine and soil the sewing material.

To oil parts inside the head, raise the needle bar to its highest point and put one drop of oil in each of the oil holes or on each of the bearings as indicated in Fig. 1. To oil the under part of the machine remove the screw in the front of the bed plate and turn back the head on its hinges and apply oil at each point indicated in Fig. 2.

After oiling, run the machine swiftly several revolutions to distribute the oil and then wipe it carefully. Be sure that every part is clean before commencing to sew. If the machine runs hard, it is certain that some bearing is not properly oiled. If the machine is gummed from poor oil or from long standing, use a little kerosene or benzine to remove the gum. Then run the machine rapidly, wipe clean and oil thoroughly with high-grade sewing machine oil.

6—What kind of oil should be used?

Good oil is one of the most essential features. Poor oil will not eliminate friction as well as high-grade oil. Poor oil clogs, fills up the oil holes which are then forgotten or overlooked and the machine runs dry, causing excessive wear.

Do not use castor oil or very thick oil. The oil should be clear and almost as liquid as kerosene. Do not use an oil that feels gritty when rubbed between the thumb and forefinger.

7—How is the machine threaded?

First raise the needle bar and takeup finger to their highest point and raise the presser bar lifter. Place the spool on the central spool pin with the thread leading from the back of the spool; draw the thread between the discs in the thread check (See A, Fig. 3) then down and around between the tension discs (B), then up and back of the curve guide (C) through the loop of the thread controller wire (N, see Fig. 11) up and through the

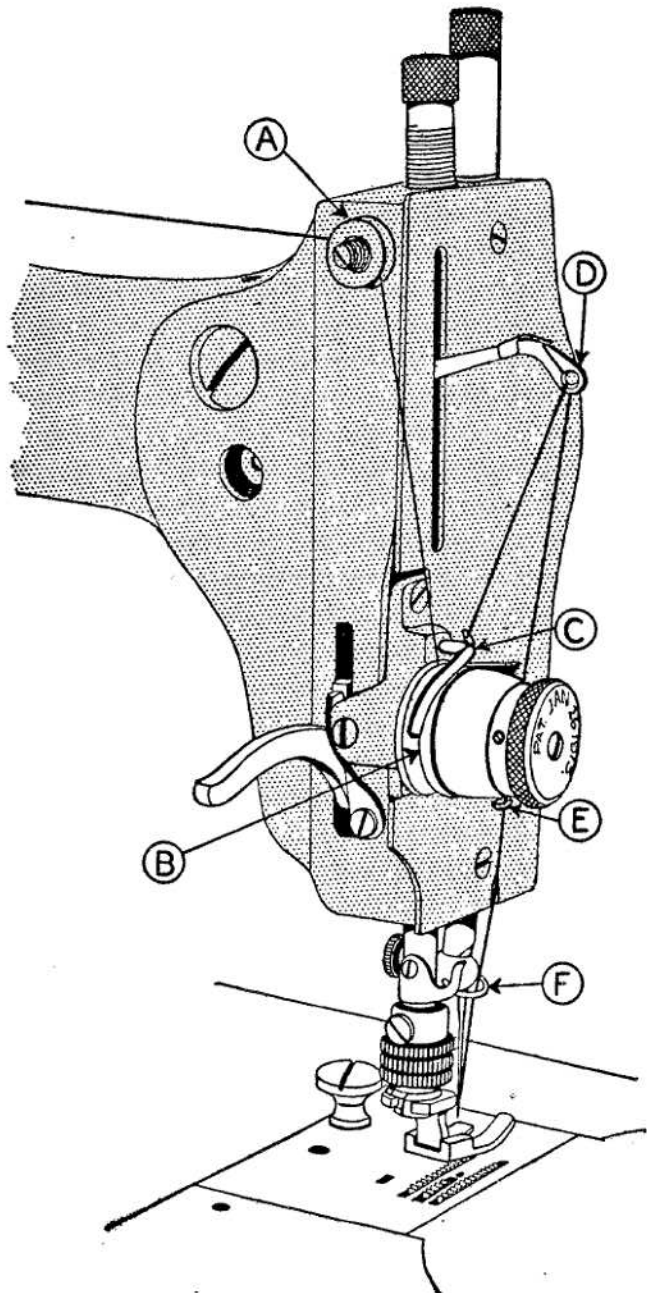


Fig. 3

slot in the take-up finger (D), then back of the staple (E) in the face plate and the hook (F) on the needle clamp and thread the end through the eye of the needle from left to right, leaving the thread about three inches long.

8—How is the bobbin case threaded?

Hold the bobbin case between the thumb and fingers of the left hand (See A, Fig. 4) with the tension spring (I) up. With the right hand place

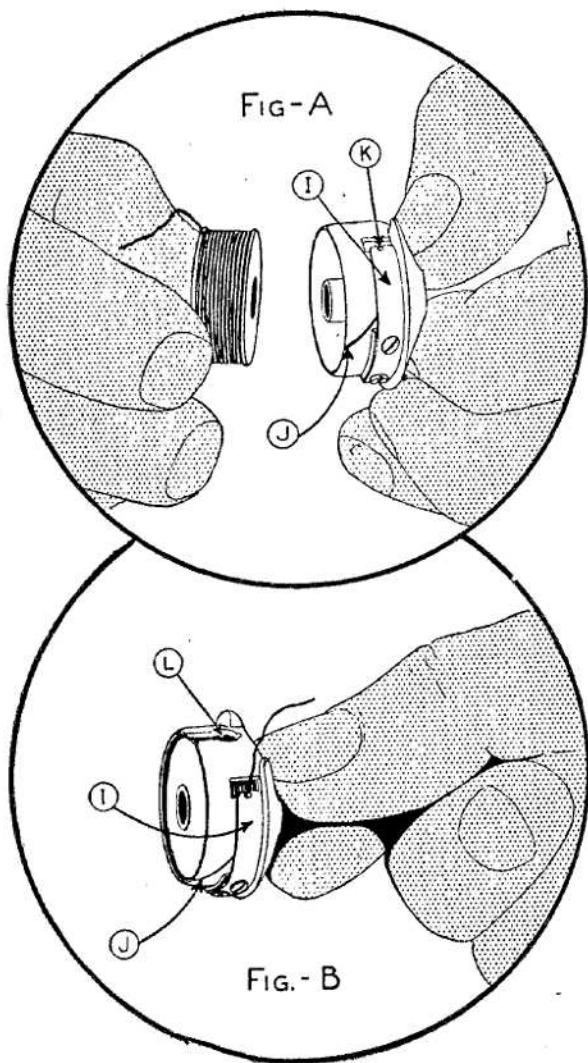


Fig. 4

the wound bobbin in the case with the thread leading from the top of the bobbin toward you. Hold the bobbin in the case with the second finger of the left hand and with the right hand draw the thread into the thread slot (J) and pull it towards you until it slips under the end of the tension spring at "K," leaving about three inches of thread hanging from the case.

9—How is the bobbin case placed in position?

After threading the bobbin case as instructed in Paragraph 8, being sure that the bobbin is pushed in the case as far as it will go, raise the needle bar to its highest position. Grasp the front of the bobbin case with the thumb and forefinger of the right hand (See B, Fig. 4),

with the thread laying over the hand and with the needle hole (L) directly at the top. Turn the little catch "G" (Fig. 5) out straight and slip the case over it and on to the shaft in the hook as far as it will go and then

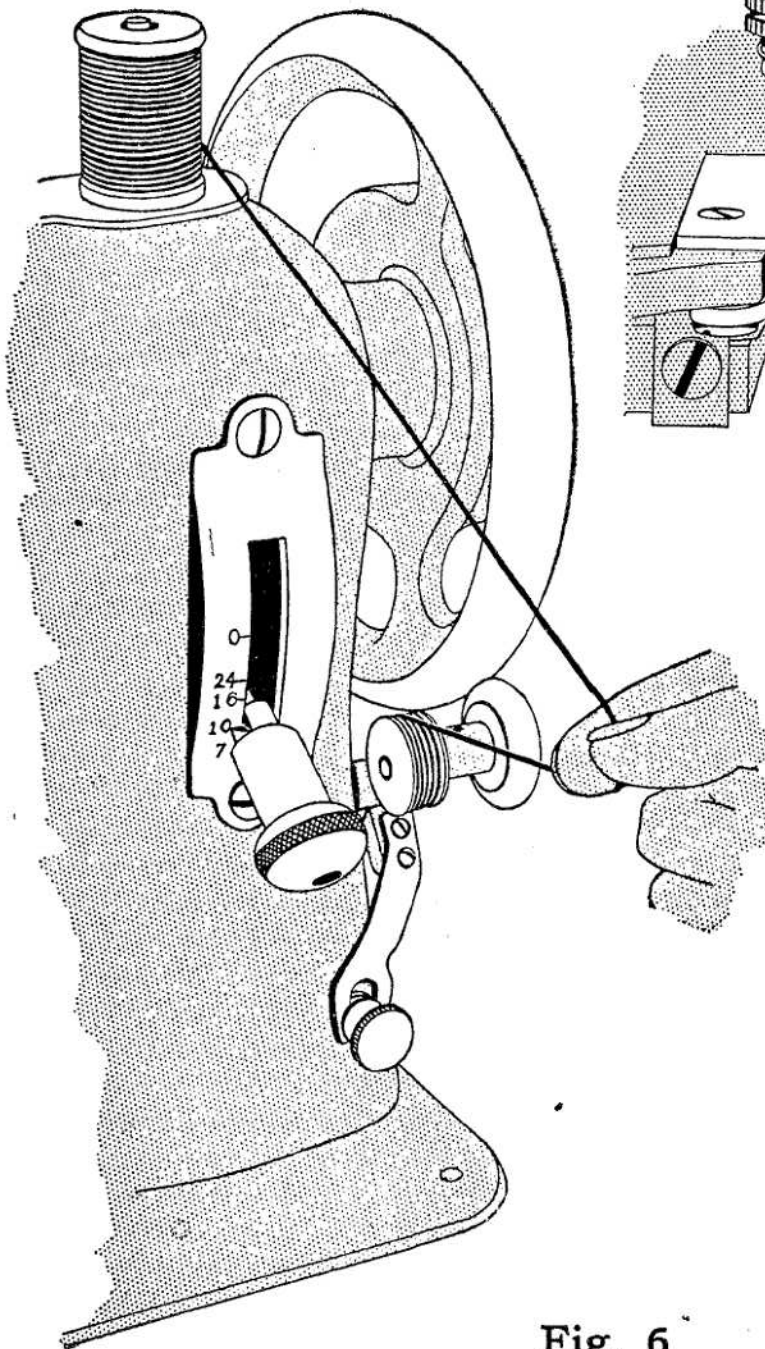


Fig. 6

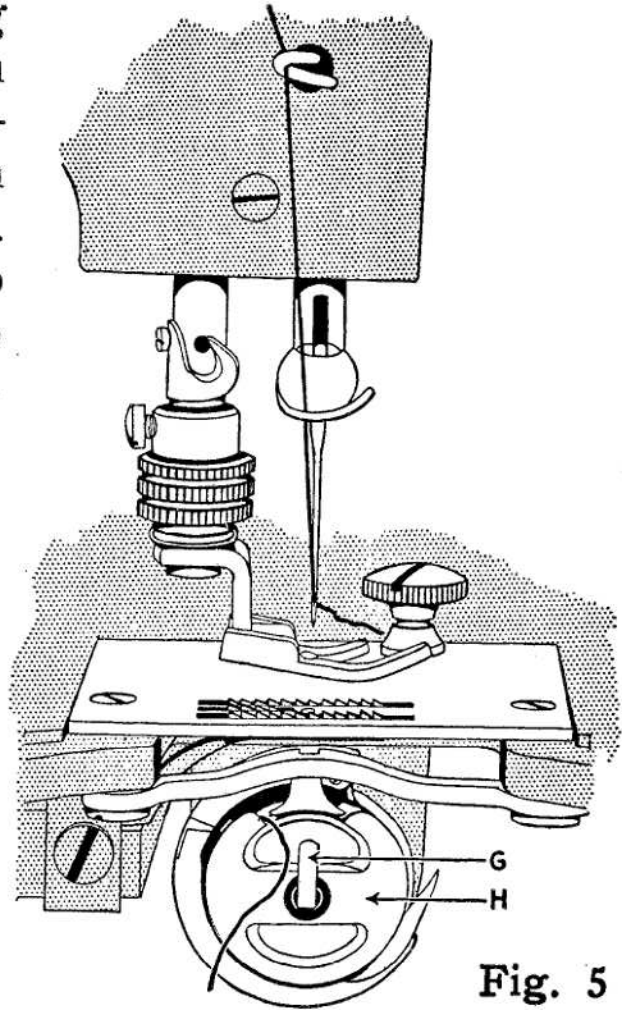


Fig. 5

turn the little catch "G" up to hold the case in as shown in Fig. 5: Be careful not to get the thread caught between the case and the hook.

10—How is the bobbin wound?

The bobbin may be wound while the machine

is sewing, if so desired, by putting the spool of thread on the right hand spool pin. (See Fig. 6.)

Draw the spooler rubber in contact with the hand wheel by turning the thumb screw to the right just far enough to cause the bobbin winder to operate. Do not squeeze the rubber against the hand wheel too tightly as this will quickly wear out the rubber.

Put the end of the thread through the hole in the bobbin, so as to hold it when starting to wind, and slip the bobbin over the spooler spindle, pushing it on as far as possible. Start to wind by turning the hand wheel toward you, letting the thread pass between the thumb and forefinger of your right hand (See Fig. 6). In this manner you can easily keep a uniform tension on the thread and wind the bobbin smoothly and evenly.

An evenly and smoothly wound bobbin is necessary for good work. Do not wind the bobbin more than even full as it will not revolve freely in the bobbin case if you do and this will cause the thread to break.

If you do not want to wind the bobbin and sew at the same time, loosen the hand wheel so that it will run idle. To do this grasp the hand wheel with the left hand and with the right hand turn the friction nut to the left as indicated by the arrow preceding the word "loosen." When through winding the bobbin, tighten the hand wheel by turning the friction nut to the right as indicated by arrow preceding the word "tighten."

11—What sizes of needles and thread should be used?

It is very important to use the right size needle, and particularly the exact length. Fig. 7 shows the proper length needle, which is also stamped on the

race cover. The relative sizes of needles and thread for different classes of work are shown by the following table.

RELATIVE SIZES OF NEEDLES AND THREAD

Size of Needle	Sizes of Thread		CLASS OF WORK
	Cotton	Silk	
No. 2	100 to 200	000 to 00	Fine Linen and Silk
No. 3	70 to 100	00 to 0	Muslin and Shirting
No. 4	50 to 70	A and B	Dressmaking and General Work
No. 5	30 to 50	B, C and D	Heavy Wool and Cotton Cloth
No. 6	Coarse		Extra Heavy Cloth

Do not use inferior thread. You cannot expect a smooth, even stitch with cheap, rough thread.

12—If the needle breaks, what is the cause?

Breaking of the needle is generally caused by pulling the goods to or from the operator in such a manner that the needle strikes the side of the hole in the throat plate. The needle may break, however, in trying to sew extremely heavy seams when the pressure on the presser foot is not heavy enough. To create more pressure upon the goods, turn the presser bar adjusting screw (Fig. 9) to the right. To decrease the pressure, turn it to the left. A blunt or hooked-point needle will cause trouble and bad work and should not be used.

13—How is the needle set in proper position?

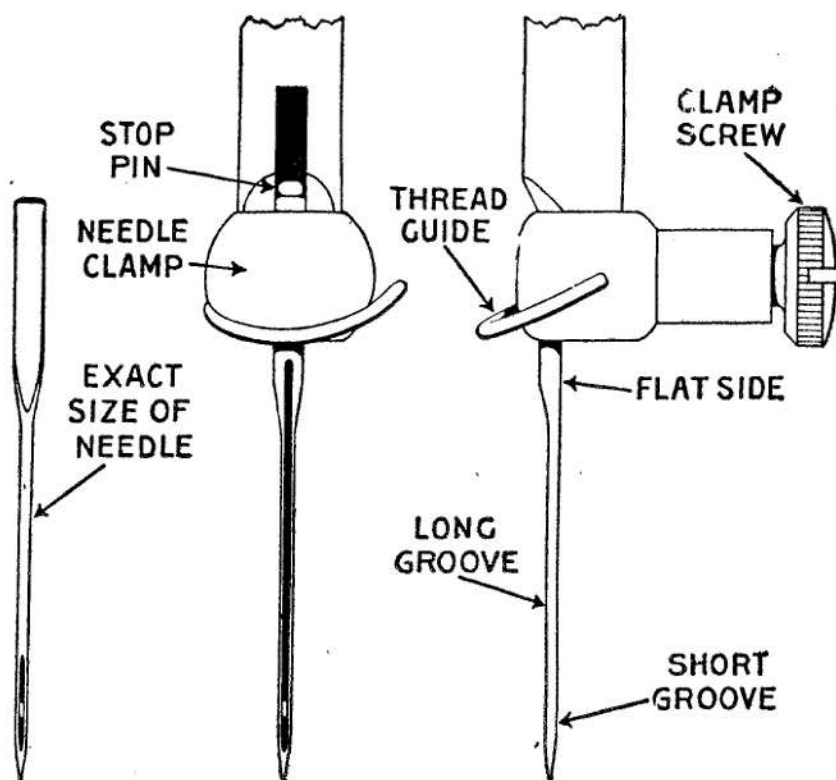


Fig. 7

Raise the needle bar to its highest point. Hold the needle between the thumb and forefinger of the left hand. Pass the shank up into the groove in the needle bar as far as it will go with the flat side toward the bar. The needle should go up so that its end fits tightly

against the stop pin in the needle bar. (See Fig. 7). If the needle is too long, or does not fit up against the stop pin, it is liable to skip stitches. When the needle is in position, secure it firmly with the needle clamp screw.

14—How is the length of stitch adjusted?

The stitch regulator (Fig. 8) is conveniently located on the front of the head to the left of the hand wheel. The figures on the plate indicate the number of stitches to the inch. Fig. 8 shows the stitch regulator set to give 16 stitches to the inch. To move the stitch regulator, pull out on the regulator knob. Setting the regulator at "0" on the scale throws the feeding mechanism into neutral and the machine will not feed.

15—How will the machine sew backward?

The machine may be made to sew backward by lifting the stitch regulator knob to a point above the mark "0" on the plate, as shown on the dotted lines in Fig. 8. This reverses the direction of the feed and is especially convenient for tying the ends of a seam. The machine need not be stopped to reverse the feed.

When sewing on the bias on fine material a short stitch and loose tension on the upper thread is recommended, so that the thread is loose enough in the seam to permit the goods to stretch if necessary.

For basting set the stitch regulator at 7 and loosen the tension on the upper thread. This stitch is easily pulled out.

16—What is the proper way to start to sew?

The machine being threaded above and below as directed, turn the hand wheel until the needle has made one complete movement, at the same time holding the end of thread in the left hand. This will bring up the under thread. Both threads should then be laid back of the presser foot. Raise the presser bar and bring the needle and take-up finger

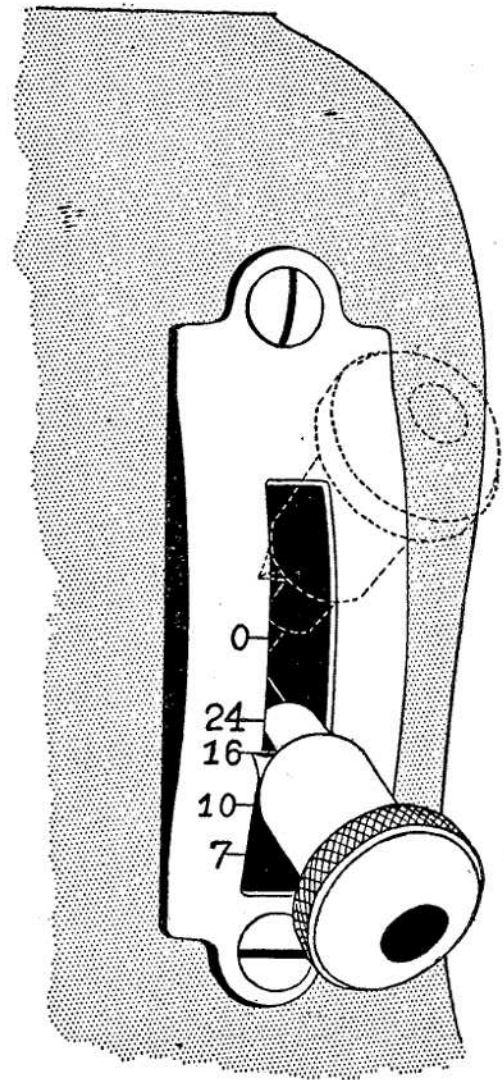


Fig. 8

to their highest points. Place the goods under the presser foot with the needle directly over the point where you wish to begin stitching. Lower the presser foot and start the machine by turning the hand wheel towards you. At the same time, put a slight pressure on the foot controller, which starts the motor, and by increasing the pressure of your foot the motor will be speeded up.

In sewing heavy or hard fabrics, greater pressure is needed on the presser foot than for light goods. The pressure is regulated by the adjusting nut on top of the presser bar. Turn this nut to the right to increase the pressure, or to the left to decrease it.

17—How is the proper tension of the thread determined?

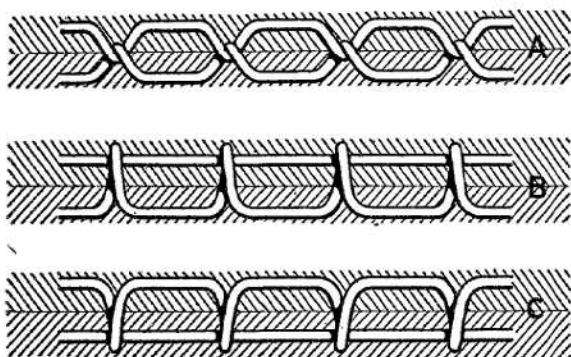


Fig. 10

The object to be attained is to have the stitch alike on both sides of the fabric. This is accomplished by careful adjustment of the tension or strain upon both threads. The tension upon both threads should be as nearly alike as possible, and tight only enough to make a smooth, firm seam. If the thread is the proper size for the material used, and both tensions correct, the upper and lower threads will be drawn and locked together in the center of the goods. (See A, Fig. 10.)

If the upper tension is too tight, (or the lower tension too loose) the upper thread will lie straight on the upper side of the goods, the lower thread

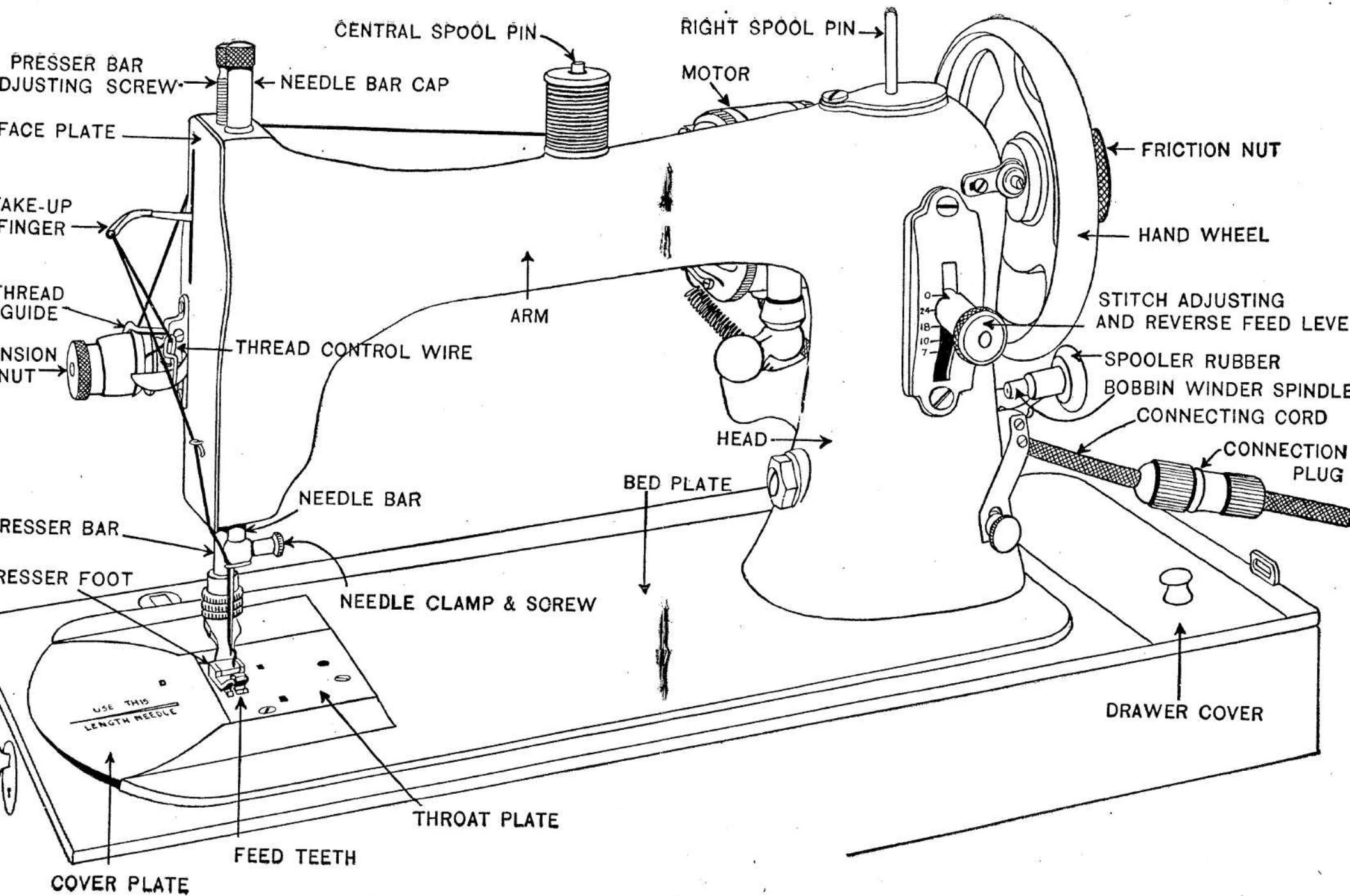


Fig. 9

showing in loops on the under side. (See B, Fig. 10). If the upper tension is too loose (or the lower one too tight) the lower thread will lie straight along the under side of the goods, the upper thread showing in loops on the upper side. (See C, Fig. 10.)

18—How is the upper tension adjusted?

This machine is fitted with an automatic upper tension and when it leaves the factory is properly adjusted to handle different sizes of thread from 30 to 150 making a medium tight stitch on all materials ordinarily used. This adjustment is determined by an expert and is obtained by setting the adjusting nut so the line through the word "Medium" is opposite the arrow as shown in Fig. 11. To permit the operator to obtain a stitch a trifle looser or tighter the tension nut may be turned in either direction. To increase the tension turn the Tension Nut toward you at the top or so the word "Tight" comes toward the arrow; to diminish the tension turn the Tension Nut in the opposite direction, or so the word "Loose" turns forward the arrow. Bear in

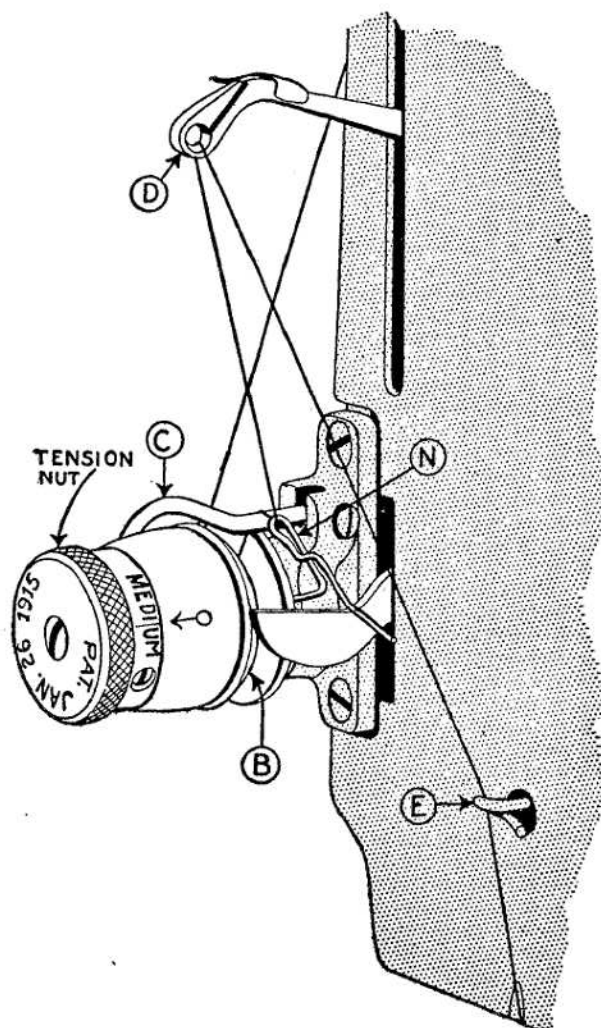


Fig. 11

mind only a half turn of the nut is provided for in either direction.

19—How is the lower tension adjusted?

The lower tension is also properly adjusted for all ordinary sewing when the machine leaves the factory and ordinarily needs no further attention. In case it becomes necessary to change the lower tension for special work it may be done by means of the bobbin case tension screw, turning it to the right to tighten and to the left to loosen.

Operators are cautioned against unnecessary changing of the adjustment of the lower tension. Remember that when the presser foot lift is raised the automatic tension release is in operation and all tension is removed from the upper thread. To determine the amount of tension on the upper thread by drawing the thread through the tension by hand the presser foot must be resting on the feed.

20—How is the work removed from the machine?

Stop the machine with the needle at its highest point. Raise the presser foot by means of the lifter and the tension on the upper thread will be released automatically. With the left hand, draw the work out directly back of the needle and cut the thread on the thread cutter attached to the presser bar. Leave the ends of the thread about three inches long.

21—If the thread breaks, what is the cause?

Some of the more common causes of trouble on account of thread breakage are:

1—Upper thread breaking—

Incorrect threading of machine. See paragraphs 7 and 8.

Tension too tight. See paragraph 17.

Thread too coarse for needle. See paragraph 11.

Needle blunt or bent or set incorrectly. See paragraph 13.

2—Lower thread breaking—

Incorrect threading of bobbin case. See paragraph 8.

Lower tension too tight. See paragraph 19.

Bobbin wound too full. See paragraph 10.

22—If stitches are skipped, what is the cause?

Skipping stitches is generally due to a wrong size needle or one that is not properly set. Sometimes it is because the needle is blunt or bent, or possibly the thread may be too heavy for the size of needle used.

Attachments

PART II

23—What is the purpose of the attachment?

The attachments are simple mechanical devices which can be easily attached to the machine, generally in place of the presser foot, (See Fig. 9) and which greatly facilitate the operator in doing certain classes of sewing. Complete instructions in the use of each attachment are given on the following

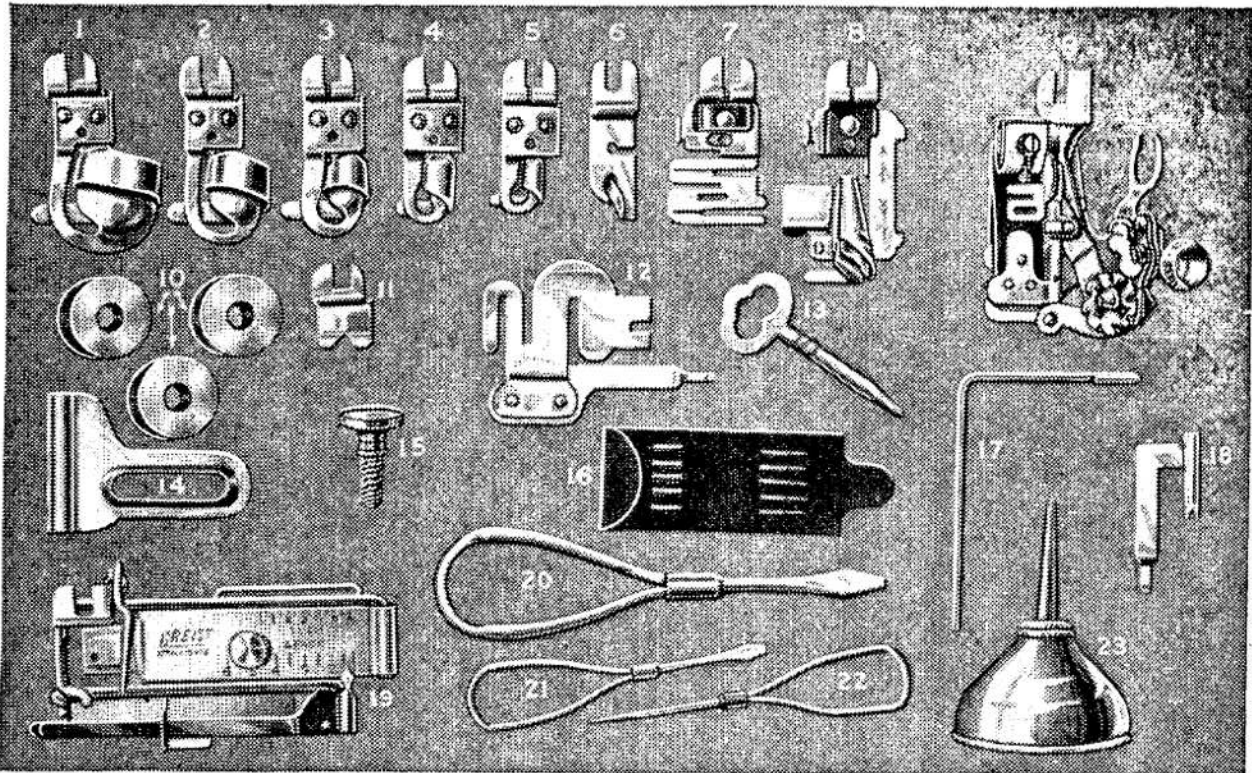


Fig. 12

pages. Once the knack of using them is acquired, they will be found a great convenience and saving of time. Twenty minutes' practice with each attachment is usually sufficient to enable the operator to apply it in her regular sewing. Every operator should know how to use the attachments and there-

by make one hundred percent use of her sewing machine.

24—How many attachments are there?

The attachments and accessories are as follows: (See Fig. 12) Nos. 1 to 5—Five sizes of hemmers. 6—Hemmer foot. 7—Edge Stitcher. 8—Binder. 9—Ruffler. 10—Three bobbins. 11—Braider foot. 12—Separating plate. 13—Key. 14—Tailor gauge. 15—Gauge screw. 16—Extra needles. 17—Quilting gauge. 18—Under braider. 19—Tucker. 20—Large screw driver. 21—Small screw driver. 22—Stiletto. 23—Oil can.

25—How is the presser foot removed?

Raise the presser bar to its highest point by raising the presser bar lifter, and turn the hand wheel until the needle and take-up finger are at the highest points. Unscrew the presser bar thumb screw (just above the presser foot) by turning it to the left until the foot is loosened when the foot can be drawn off towards you.

26—How is the hemmer foot used for narrow hemming?

Remove the presser foot, and substitute the narrow hemmer foot, pushing it on the presser bar as far as it will go and tightening the thumb screw. Be sure that it stands true and straight with the feed teeth. Turn the hand wheel slowly to make sure that the needle passes through the needle hole in the hemmer foot. (See Fig. 13.)

To insert the material in the hemmer, fold over the edge of the material the size of the hem and as the hem would be made and hold in the fingers of the left hand. With the right hand insert the raw edge into the scroll of the hemmer foot from under-

neath, drawing the material towards you, and holding the fold in position just back of the needle. Lower the presser bar.

If the material is drawn so that the extreme edge is directly under the needle point, it will be necessary to assist the material under the hemmer foot for the first two or three stitches or until the feed engages the material, by taking hold of the two ends of thread and pulling directly back.

Guide the material with the fingers to keep it smooth and to keep the scroll of the hemmer just even full. If too little cloth feeds in, carry the material slightly to the right; if too much feeds in, carry the material to the left.

In hemming a curve or flannel or slazy goods, hold back on the material, resisting the feed slightly and guiding the work carefully. Practice in guiding the cloth is all that is necessary to produce a neat seam quickly by the use of the hemmer foot.

27—How is the hemmer foot used for felling?

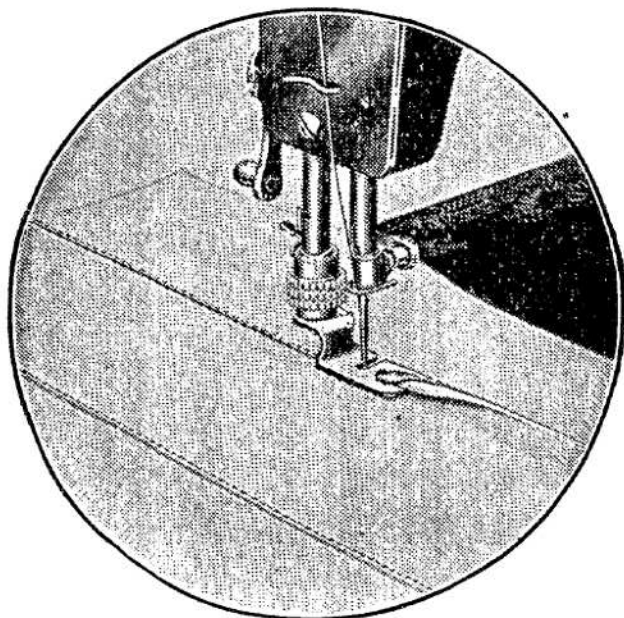


Fig. 13

See Fig. 13. Attach the hemmer foot in the way described in Paragraph 26. Stitch the two pieces of cloth together in the usual way except that the lower one should project about one-fourth inch beyond the upper one. Sew as closely to the edge of the upper cloth as possible. Trim off

the edges where necessary, so as to leave just enough seam to fill the scroll. Open the work flat,

wrong side up, and fold over the wide edge of the seam towards the left over the narrow edge as the hem would be made. With the fold uppermost, insert in the hemmer foot in the same way as when making a narrow hem. Lower the presser bar and guide the work carefully the same as when narrow hemming.

28—How is the hemmer foot used for hemming and sewing on lace?

See Fig. 14. Start the hem as described in Paragraph 26 and when the hem is running properly stop the machine, with the needle at its highest point, and raise the presser bar. Insert the edge of the lace into the needle slot in the hemmer foot, drawing it back under the needle. Lower the presser bar and proceed to sew, guiding the cloth with the left hand and the lace with the right, keeping the lace far enough in the slot to enable the needle to stitch through it.

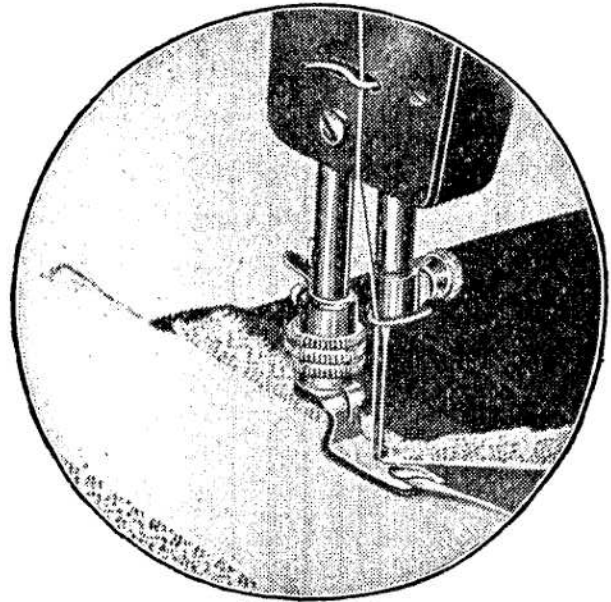


Fig. 14

29—How are the five sizes of hemmers used?

See Fig. 15. Raise the presser bar, remove the presser foot and attach in its place the width hemmer desired. There are five sizes. (See Fig. 12.)

Fold over the cloth the width of the hem and as the hem would be made for about one-half inch from the corner where the hem is to start. Take the fold in the fingers of the left hand and with the right hand insert the raw edge in the mouth of the scroll

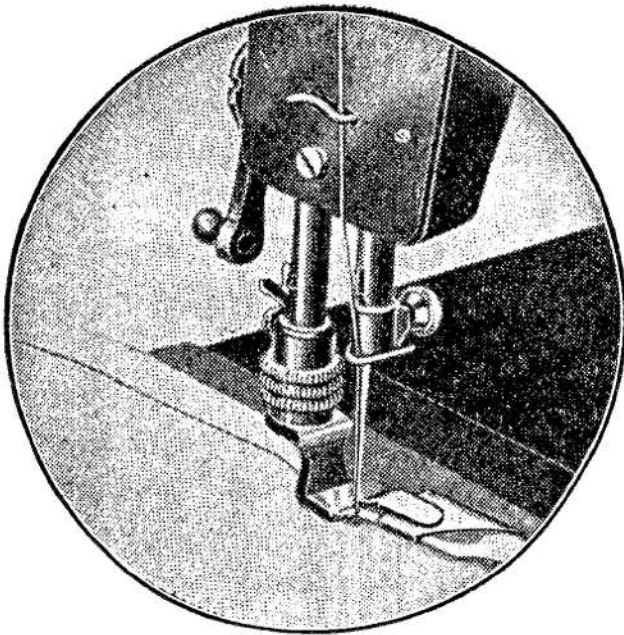


Fig. 15

from the left, curving it around the scroll and drawing it towards you, holding the fold in position just back of the needle, until the beginning of the hem is under the needle. Lower the presser bar and proceed to sew, guiding the material with the fingers to keep the scroll even full.

If more goods are required to fill the scroll and turn the edge properly, carry the material slightly to the right; if too much cloth turns in, carry it to the left.

30—How is the tucker used?

See Fig. 16. Raise the presser bar, remove the presser foot and attach the tucker in its place so that the needle passes through the center of the round hole in the tucker, then fasten it securely in this position.

The figures on the scale on the back of the plate of the tucker indicate the width of tuck. To adjust, loosen the thumb screw in the center of the tucker and move the pointer to the desired figure.

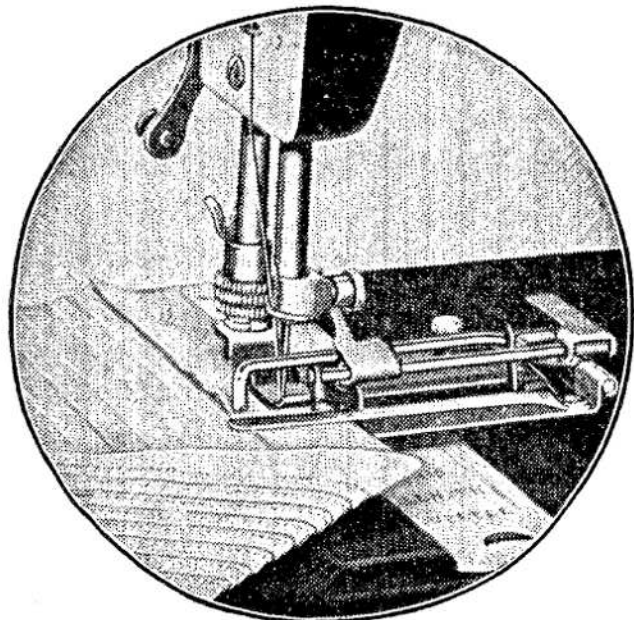


Fig. 16

The figures on the front of the tucker indicate the space between tucks. To adjust, loosen the thumb screw and move the pointer to the desired figure. Then tighten the thumb screw. The table on page 25 will help you in setting the tucker and spacer.

To commence tucking, fold the cloth for the first tuck and place it, with the fold under, between the spring lip and the tucker frame, with the folded edge against the gauge. Lower the presser bar and sew as usual.

After the first tuck is completed, fold the cloth on the crease made by the creaser and place in the tucker as before. Continue this operation for the desired number of tucks.

When making the last tuck raise the movable lever so that it clears the needle clamp screw and thus avoid making a mark where a tuck is not desired.

Scale for Setting Tucker

FOR	Set Tuck Guide at	Set Space Guide at
1/16" tucks with 1/8" space.....	1/2	1
1/8" tucks with no space.....	1	1
1/8" tucks with 1/8" space.....	1	1 1/2
1/8" tucks with 1/4" space.....	1	2
1/4" tucks with no space.....	2	2
1/4" tucks with 1/4" space.....	2	3
1/4" tucks with 1/2" space.....	2	4
1/2" tucks with no space.....	4	4
1/2" tucks with 1/2" space.....	4	6
3/4" tucks with no space.....	6	6

31—How is the binder used?

See Fig. 17. Remove the presser foot and attach the binder in its place. The small end of the scroll of the binder should rest on the needle plate, with

the upper scroll of the binder on a line with the needle.

To insert the binding in the scroll, cut it to a point

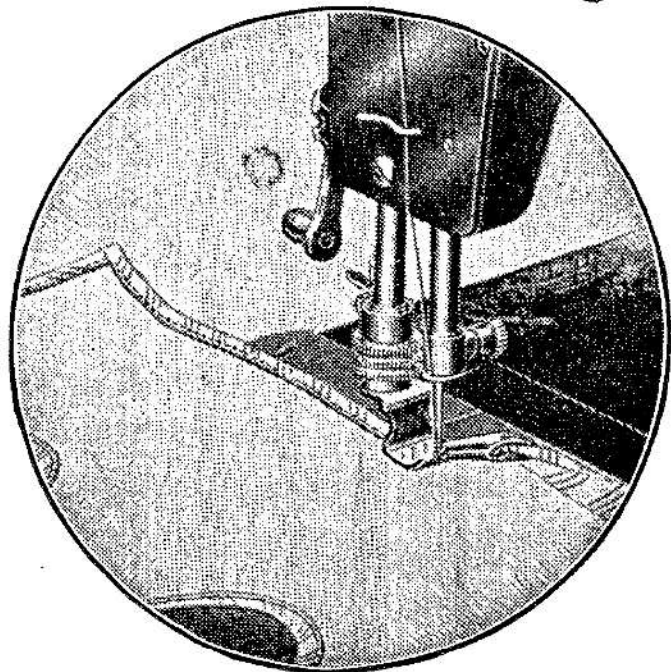


Fig. 17

and insert the point into the scrolls using the stiletto or scissors to pull it through under the needle. Place the edge of the material to be bound between the upper and lower scrolls and lower the presser bar. Start the machine slowly, guiding the binding with the right

hand and the material to be bound with the left hand. If the stitching should be too near or too far from the edge of the binding, move the lug to be found just left of the needle hole, until exactly right.

For bias binding, goods of any description can be used, and the binding should be cut seven-eighths of an inch wide for starched materials and about one inch wide for soft materials like batiste. Use a rather long length of stitch.

To turn a square corner when binding, stop the machine at the corner, with the needle in the goods, raise the presser foot and turn the work on the needle. Then before starting the machine tuck in the folds of the binding, using the small screw-driver for that purpose if necessary.

Common dress binding can be used in the bias binder when desired. Proceed the same as when using bias binding, as explained above, the only difference being that the dress-binding being nar-

row, the edge of the binding will not be turned under.

32—How is the under-braider used?

Remove the regular presser foot and attach the special foot with two short prongs. Put the under braider plate in position on the needle plate, by inserting the prongs in the rectangular holes in the needle plate to the right of the needle. Push the braider plate forward as far as possible so that the point of the braider tube is just in front of the needle hole in the needle plate.

Draw the braid through the braider-tube by drawing it under the left side of the tube. Raise the presser foot and see that the needle passes through the center of the braid. Use a No. 4 needle and about 16 length of stitch.

The pattern should be marked or stamped on the wrong side of the material. Place it under the presser foot with the pattern side up and with the point of the needle directly above where the braiding should start. Lower the presser bar and proceed to sew, following the pattern.

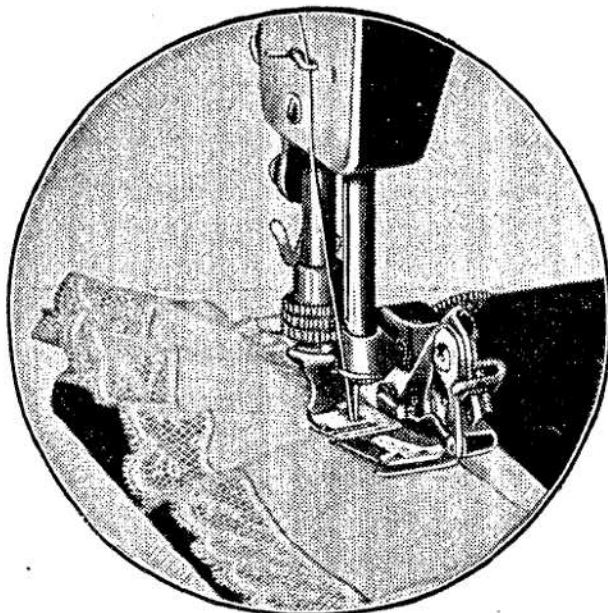


Fig. 18

33—How is the ruffler used?

See Fig. 18. Remove the presser foot and attach the ruffler in its place on the presser bar with the fork of the lever over the needle clamp screw. It is advisable to slightly loosen the upper tension.

Place the material to be gathered between the blue blades and under the guide lip, push forward until under the presser foot, lower the presser foot and commence to sew. If the ruffle is to be attached to a band, place the band under the lower blade. The fullness of the gather is regulated by the adjusting screw on the top of the ruffler. To increase the amount of fullness, turn the adjusting screw to the right; to decrease the fullness turn the adjusting screw to the left. By regulating the adjusting screw and the length of stitch you can make all variations from the very scant to the full ruffle.

A greater range of work is made possible by the five-stitch feature. When properly set for this work the ruffler only throws a plait or fullness every fifth stitch instead of with every isttch. To throw the five-stitch feature into operation, turn the wing nut so that the side marked 5 ST is up. For ordinary ruffling keep upward the side marked 1 ST.

34—How is the ruffler and separating plate used for shirring?

See Fig. 19. Remove the lower blade of the ruffler, by loosening the small screw on the right side of the ruffler.

Put the separating plate in position by inserting the prongs in the rectangular holes in the needle plate to the right of the needle. Push the separating plate forward as far as possible.

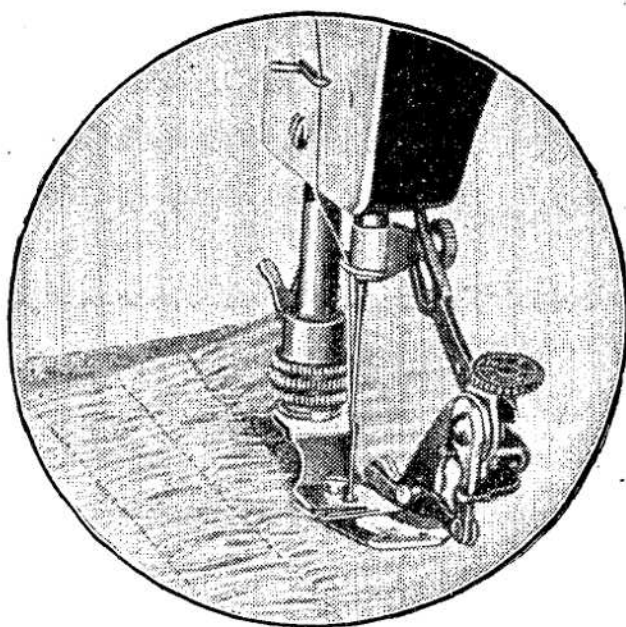


Fig. 19

Adjust ruffler and proceed as described in Paragraph 33. To shirr in straight rows, fold the material as a guide for the first row of stitching; then attach the quilting gauge (see paragraph 34) on the left side of the needle and adjust the loop end the distance from the needle that is desired between lines of stitches and guide as described in paragraph 35.

35—How is the quilting gauge used?

To attach the quilter, loosen the screw that holds the thread cutter to the presser bar and pass the end of the gauge through the hole in the presser bar.

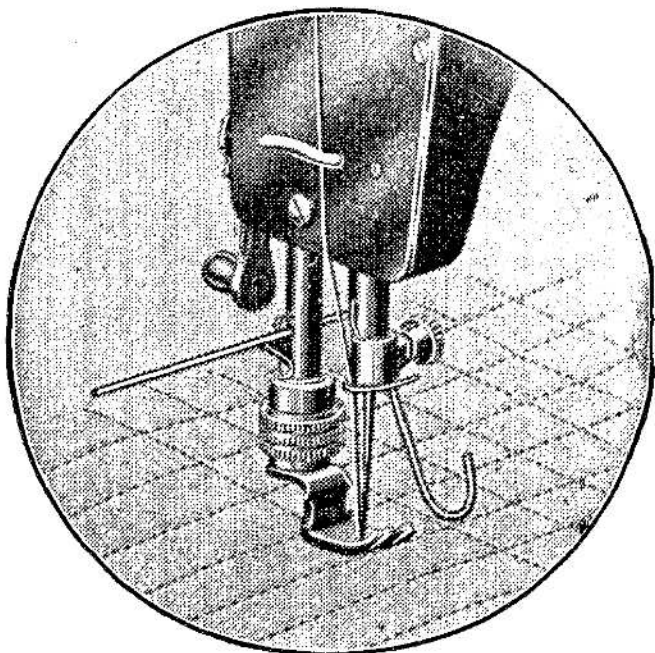


Fig. 20

The loop end of the gauge should be the distance from the needle as desired between rows of stitches and be just far enough above the bed of the machine to allow a free passage of the material under it. Tighten the screw. (See Fig. 20.)

Guide the work so that the last line of stitching will be directly under the bottom of the quilter. The gauge can be used on the left side of the needle if desired.

36—How is the tailor guide used?

This guide is used to guide the material for making straight seams. Fasten the guide in position on the bed of the machine by use of the gauge screw, having it just the distance from the needle as is desired. Put the material under the presser foot with

the edge square against the guide. Start the machine and sew as usual, keeping the edge always square against the guide.

37—How is the edge-stitcher used?

Remove the presser foot and attach the edge-stitcher in its place. Turn the hand wheel slowly to make sure that the needle passes through the hole in the edge-stitcher, then tighten the thumb screw securely.

The purpose of this attachment is to serve as guides for sewing together laces, insertions, embroideries, sewing in position folded or hemmed edges, bias-folded material or piping, etc. It is adjustable for stitching in relation to the edge of the material, by means of the lug on the left side.

To commence sewing, place the pieces of material in the slots and turn the hand wheel to make sure that the needle pierces both pieces of material. If it does not, adjust the attachment, moving the lug to the right or left until the desired adjustment is obtained. Then lower the presser bar and start the machine, guiding one piece of material with each hand.

For sewing together rows of insertion, alternate rows of insertion and embroidery, ribbon and lace, etc, use the slot on the left side nearest the needle and the slot on the right nearest the needle. If the material used has a heavy edge it may be more satisfactory to use the second slot from the needle on the left side and the slot nearest the needle on the right side.

For sewing braid to a garment for trimming insert the braid in the slot nearest the needle on the left side and the garment underneath the attach-

ment. Make a crayon mark or fold to indicate where the stitching is to come.

For sewing bias-folded material to the edge of a garment as a finish and trimming, insert the bias-folded material in the slot nearest the needle on the left side and the edge of the garment in the slot nearest you on the right side with the garment wrong side up. Fold the bias material back on the right side and stitch in position with the presser foot.

For sewing bias tape on top of a hem for a finish insert the tape in the slot nearest the needle on the left side and the edge of the hem in the slot nearest you on the right side. Turn the hem and sew other edge in position with the presser foot.

For piping a box plaid insert the piping in the closed slot in the center of the attachment and the edge of the plaid in the slot nearest the needle on the right side for wide piping and in the slot nearest the needle on the left side for narrow piping.

To cover a seam with bias-folded material insert the folded strip in the slot nearest the needle on the left side and the material under the attachment. Then sew the free edge on the bias strip in position with the presser foot.

For sewing bias-folded material to a garment for trimming use the bias-folded material in the slot nearest the needle on the left side. To turn an outside corner stop the machine where the corner is so be turned and fold the proper amount of material over, then insert it in the attachment and sew until the next corner is reached. It is not necessary to remove the material from the attachment to turn an inside corner.

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