





**T**HIS book of instructions for operating the Minnesota New Model "A" Sewing Machine has been prepared with the greatest care. The illustrations are actual photographs of the machine in operation, showing what may be done by means of the New Model "A" attachments. We show these illustrations with such explanations as will enable anyone, with little or no experience, to understand and be successful in operating this machine.

Even if you have used a sewing machine before, whether one of our machines or a machine manufactured by some other company, we suggest that you carefully read the hints and instructions contained in this book before you try to operate the machine. By following the instructions in this book, your machine will always give perfect satisfaction.

**W**HEN ordering any supplies for this machine be sure to give the name of the machine and the head number, which will be found stamped on the front shuttle slide.

## General Instructions

Before we go into detail regarding any particular operation or part of the machine, we wish to review some of the most important things to remember as well as a number of "Don'ts" with reference to sewing machines.

Every machine, before leaving the factory, has been carefully adjusted, inspected and its sewing qualities have been tested on every class of work and found perfect in every respect.

Before the machine is used care should be taken to clean and oil it thoroughly, according to the instructions found on pages 2 and 3 of this book.

Don't tamper with the adjustment of the machine until you thoroughly understand how to handle it.

Don't allow repairers, or others, to attempt to repair your machine unless you are sure they are capable.

Don't try to use the attachments until you are thoroughly familiar with plain sewing and can handle the machine easily.

Don't run the machine when it is threaded up unless there is a power the presser foot. If you do the thread will snarl and tangle and may break the needle.

Don't run the machine with the presser foot resting on the feed and no cloth between or the sharp teeth of the feed will injure the foot and the feed teeth will be dulled.

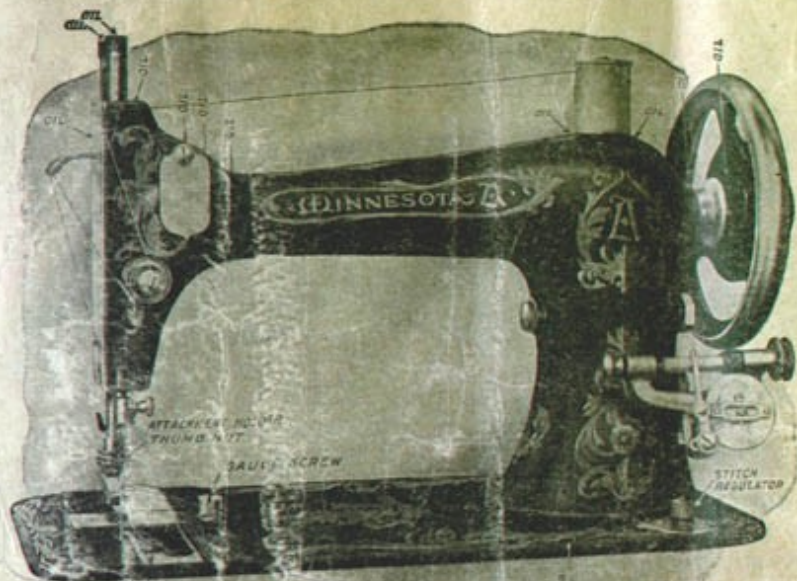
Don't run the machine with either of the shuttle slides open, except to turn the wheel very slowly by hand, or the shuttle may strike the needle plate and cause serious damage.

Don't try to help the feed by pulling the work or holding it back lest you bend or break the needle. The machine will feed without assistance.

Don't allow lint or dust to accumulate inside the shuttle, nor under the shuttle tension spring. Any substance inside of the shuttle will prevent the bobbin operating easily and anything under the spring will interfere with a perfect tension. After using a machine always clean it well before putting it away.

When ordering needles, shuttles, or parts of any kind, always give the name of your machine as well as the head number, which you will find stamped on the front slide, directly in front of the needle. See page 32.





### TO OIL THE MACHINE.

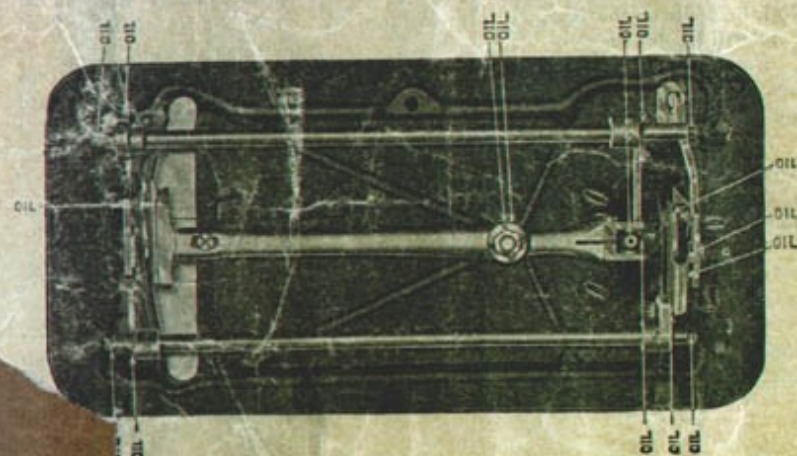
The thorough oiling of a sewing machine is of the utmost importance, as it insures ease of motion and prevents early wear. Every point on the head of the machine where oil should be applied is indicated on the illustration shown on page 2 by the word "oil," with dotted lines showing the exact spot for oiling. Oil holes will be found for each bearing which cannot be reached for direct application of oil.

To oil the parts inside the head: Raise the needle bar to its highest point, then put one drop of oil in each of the oil holes in the head, as shown in the illustration.

To oil the works underneath the bed plate: Throw off the belt and turn back the head on its hinges, then apply a drop of oil on each bearing, as shown in the illustration.

**Note.**—On automatic lift machines the shipping screw to the left of the stitch regulating knob must be taken out before the head can be turned back.

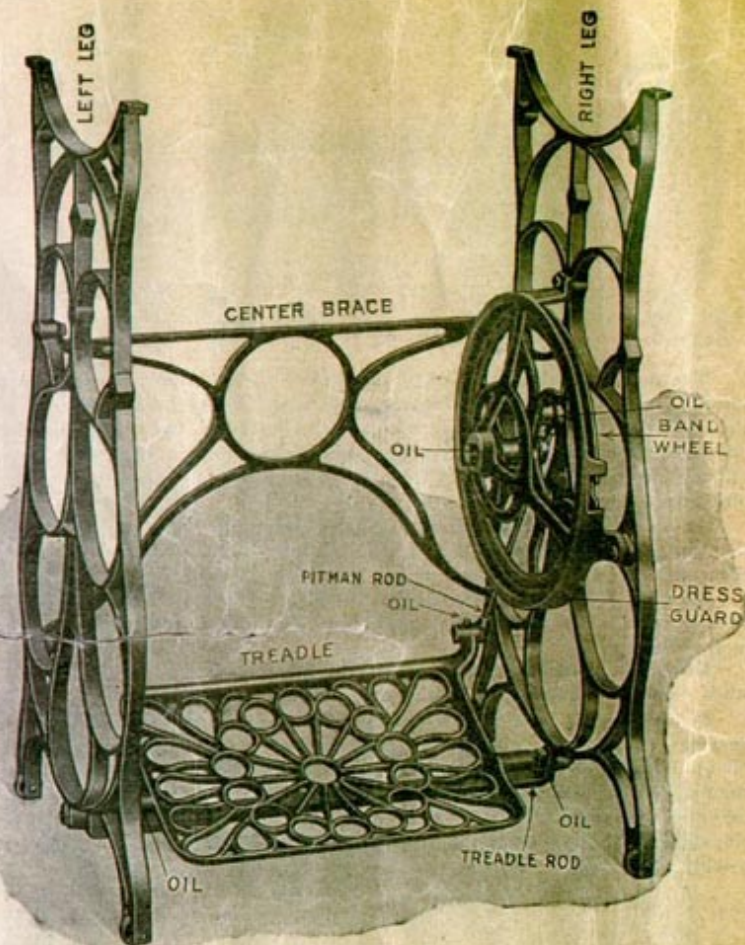
If the machine runs hard it must be due to lack of proper oiling of some bearings. Should the machine become gummed from long standing or poor oil, apply kerosene or benzine to all the bearings to remove the gum, then run the machine rapidly, wipe clean and oil thoroughly with good sewing machine oil before beginning to sew. Use nothing but good sewing machine oil; bad oil clogs the oil holes, causing the machine to **RUN HARD** and **WEAR OUT** quickly.



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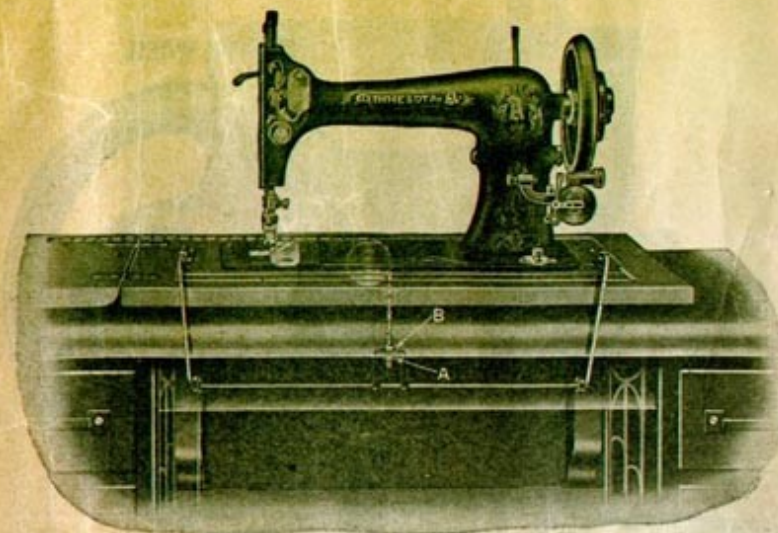
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**To Oil the Stand:** The journal of the balance wheel below the table, the bearings at each end of the pitman and the bearings of the treadle on each side, are the five points on the stand which require regular oiling. After oiling run the machine a few minutes to distribute the oil and then wipe carefully. Be sure every part is clean before commencing to sew.

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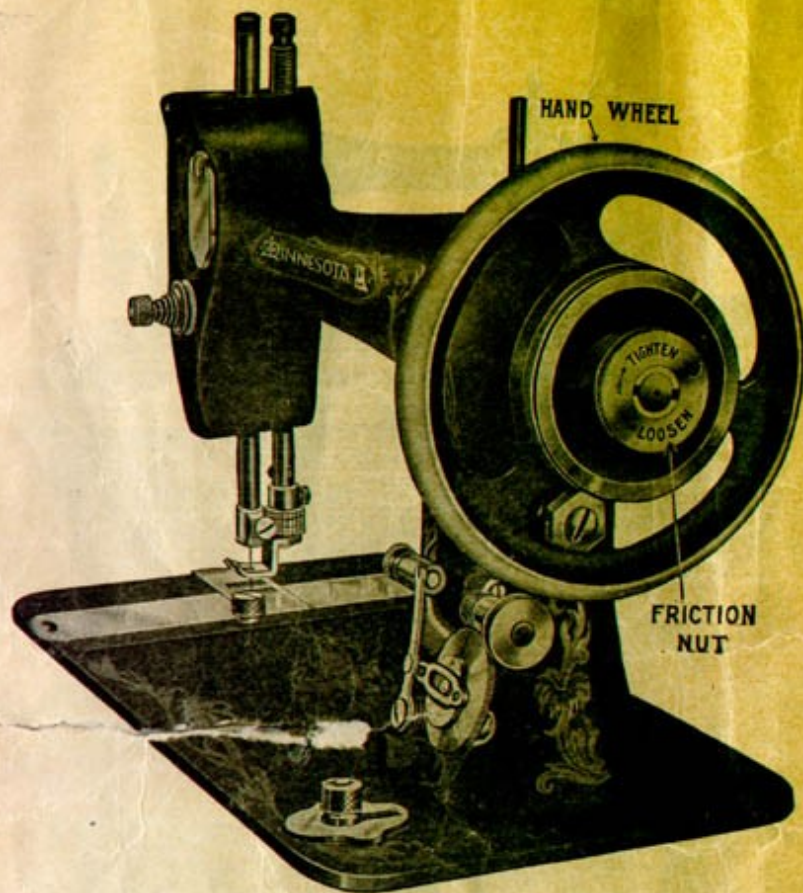


#### THE AUTOMATIC LIFT.

If the Automatic Lifting Device does not raise the head high enough, open the leaf and bring the head up to the regular sewing position. Remove the shipping screw, turn the head back, loosen nut (B), turn nut (A) to the right two or three times, then tighten nut (B). This operation shortens the chain. To lengthen the chain turn nut (A) to the left.

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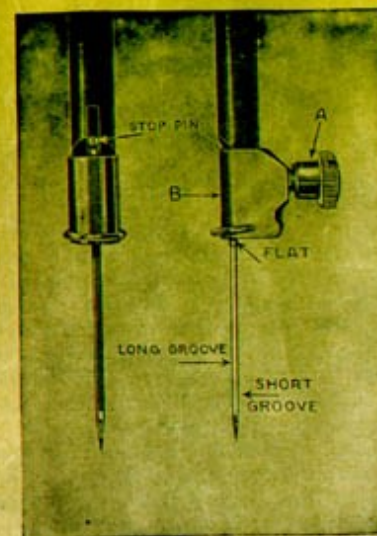


### FOR BEGINNERS.

If you are not accustomed to running a sewing machine, or find it difficult to get a regular and even motion to the treadle, it should be learned before you attempt to do any sewing on the machine by following these instructions: First raise the presser foot, then take off the front shuttle slide and remove the shuttle, after which replace the shuttle slide. Next loosen the hand wheel (see illustration), holding it with the left hand while turning the friction nut toward you with the right, so the hand wheel will revolve freely on the shaft without operating the sewing mechanism. Place your feet on the treadle, with the instep directly over the center, and turn the hand wheel toward you with the right hand, allowing the feet to move up and down on the rocking treadle with the motion produced, and continue this motion by pressing on the treadle, first with the heels and then with the toes, until an easy and steady motion is obtained. After becoming entirely familiar with the treadle movement in this way, connect the hand wheel with the machine by turning the friction nut away from you.

Be careful to have the presser foot raised while learning the treadle movement. Start the hand wheel toward you and continue the motion with the feet as already learned, but with all operating parts running. When you are able to operate the treadle with a steady motion, put a piece of cloth between the feed and the presser foot, drop the lifter so as to let the presser foot down on the cloth, and operate the machine in this way, without threading it up, until you have learned to guide the material and make a straight seam. Do not attempt to do any sewing until you are able to run the machine by the treadle and accustomed to start the machine readily without turning the wheel in the wrong direction. Always remember that the top of the hand wheel should turn toward the operator.

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### TO SET THE NEEDLE.

Raise the needle bar to its highest point and loosen the needle clamp screw (A). (See illustration.) 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 (B), as far as it will go, with the flat side of the shank toward the needle bar. Then secure the needle firmly by tightening the screw (A).

If linen or silk thread, or very coarse cotton, is to be used in sewing, the needle may be set a little lower than directed, so that the end of the shank of the needle does not quite come up to the stop in the needle bar.

**Note.**—Remove the needle clamp occasionally and cleanse from oil.

### TO AVOID BREAKING NEEDLES.

When a needle is broken, it is in nearly every case the fault of the operator, and caused by pulling the work, so that the needle strikes the throat plate, when it is bound to break.

Be sure that the presser foot or attachments are securely fastened with the thumb nut and that the needle does not rub against the side of the foot.

A needle may also be broken by sewing heavy seams or very thick goods without having the pressure on the presser foot as heavy as it should be for such work.

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### 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.

Do not use too large a size of thread for the work. If the thread is too coarse to be properly bedded into the fabric a smooth, even seam cannot be obtained. When sewing two thicknesses of calico or shirting, No. 70 is stronger than the thread woven in the fabric and will make a handsome stitch. The seam will also wear longer than if coarser thread is used, because with coarse thread the stitches lie on top of the fabric and are first worn away.

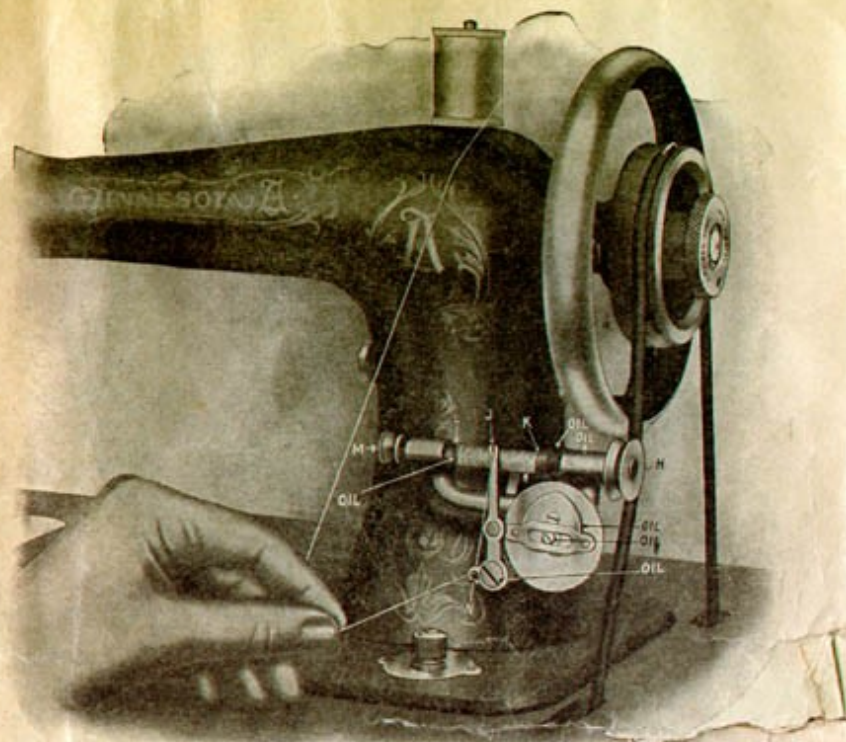
**To Use Silk Thread:** A finer needle is required for silk thread, and for using fine silk thread the tensions should be tightened, because silk thread, being loosely woven, will not be caught by a loose tension.

Do not use poor thread or imperfect needles. Any good thread will do good work on this machine, but you must not expect to make smooth, even stitches with rough, uneven thread. Neither will the machine work well with cheap and poorly made needles. It is our interest to maintain the reputation of our machines and we can always supply the best needles at the lowest prices. Orders can be sent direct to us by mail, with money enclosed, and will be filled promptly. When ordering always mention size of needles desired and give plate number of your machine, which will be found stamped on top of the front shuttle slide directly in front of the needle.

### SIZES OF NEEDLES AND THREAD.

Size of Needle	Class of Work to Sew	Size of Cotton
2	Very thin Muslin, Cambrics, Linen, etc.	100 to 200 Cotton 000 to 00 Silk Twist.
3	Very fine Calicoes, Linens, Shirtings, fine Silk goods, etc.	70 to 100 Cotton 0 Silk Twist.
4	Shirtings, Sheetings, Bleached Muslins, Calicoes, Silk and general domestic goods, and all classes of general work.	70 to 50 Cotton A and B Silk Twist.
5	All kinds of heavy Calicoes, light Woolen Goods, heavy Silk, Seaming, Stitching, etc.	50 to 36 Cotton C Silk Twist.
6	Tickings, Woolen Goods, Trousers, Boys' Clothing, Corsets, Cloaks, Mantles, etc.	36 to 20 Cotton D Silk Twist.

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### TO WIND BOBBINS.

**The Hand Wheel Friction Nut Has a Right Hand Thread.** For winding bobbins hold the hand wheel with the left hand and with the right hand turn the hand wheel friction nut (as marked in illustration) to the left, or toward you—that is, in the direction shown in illustration by the arrow under the word "Loosen." This will loosen the belt pulley so the belt will run without moving the sewing parts of the machine. Place the belt **back of the grooved wheel** on the bobbin winder (H) as illustrated. Run the winder until the end of the feed lever (J) is as far to the right as it will go. Place one end of the bobbin in the socket of the spindle (K) on the right side and the other end of the bobbin in the socket of the step (L) on the left side, pulling the step nut (M) 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 the socket of the spindle (K) on the right side. Carry the thread through the slot in the end of the feed lever (J), then through the eye (N) at the lower end of the lever. When winding hold the thread between the fingers, but not too tight. An evenly and smoothly wound bobbin is necessary to produce perfect work. Do not fill the bobbin too full or it will not revolve freely in the shuttle. A very little oil should be placed on the left hand end of the bobbin where it runs in the socket of the step (L) and the spindle should be kept oiled. When through winding bobbins remove the belt from the back of the grooved wheel (H) and turn the hand wheel friction nut to the right, or in the direction indicated by the arrow under the word "Tighten" until it is tight, and the machine is ready for sewing. The thread should wind evenly on the bobbin and fill it alike at both ends. This is regulated by the finger or feed lever (J). If one end fills faster than the other the feed lever should be bent slightly toward the end on which the least thread is wound. If it winds too fast on the middle of the bobbin, bend the feed lever away from the bobbin. Be sure to stop winding before the thread is wound higher than the brass ends of the bobbin.

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**TO THREAD THE SHUTTLE**

FIG. 1



FIG. 2

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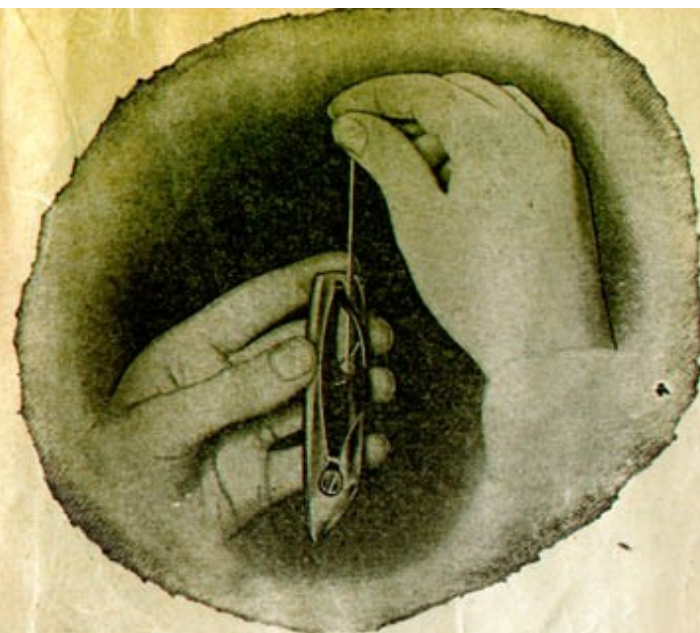


FIG. 3

**TO THREAD THE SHUTTLE.**

Hold the shuttle in the left hand with the point of the shuttle toward you. Drop the bobbin into the open end of the shuttle, being the bobbin so that the thread will draw from the under side of the bobbin when sewing. (See illustration on opposite page, figure 1.)

Then draw the thread toward you into the open slot in the shuttle, at the same time pressing a finger against the end of the bobbin so it will not turn. Continue drawing the thread through the slot toward the point of the shuttle until it is forced under the point on the shuttle tension spring, as shown in second illustration on opposite page.

Then draw the thread from you toward the heel of the shuttle and over the small point or lip of the shuttle spring (see figure 3) until the bobbin commences to turn. Have about three inches of thread hanging from the shuttle.

**TO PLACE THE SHUTTLE IN THE MACHINE.**

Draw out the front shuttle slide and place the shuttle in the shuttle carrier with the point of the shuttle toward you, and the spring on top; then close the shuttle slide. When using some of the attachments it will sometimes be found more convenient to withdraw the back shuttle slide and remove or replace the shuttle when the carrier is at the back end of the race.

**TO CLEAN THE SHUTTLE RACE.**

The face of the shuttle race must be kept perfectly clean and free from dust or gum. It should be cleaned frequently by rubbing with a piece of cloth having a drop of oil on it, then wipe it clean with a soft dry cloth. If the shuttle race becomes very gummy, first clean it thoroughly with a cloth saturated with benzine or kerosene, afterward using an oiled cloth and then a dry clean cloth as explained above. Breaking of thread and skipping of stitches are often caused by failure to keep the shuttle race clean.





### TO THREAD THE MACHINE.

Before the machine leaves the factory it has been carefully inspected and tested with various sizes of thread from No. 40 linen to No. 150 cotton and found to work perfectly on all kinds of goods. The machine is sent out properly threaded and care should be taken to observe how it is threaded when received. It may, however, become unthreaded in transportation, in which case the operator should carefully observe the following directions:

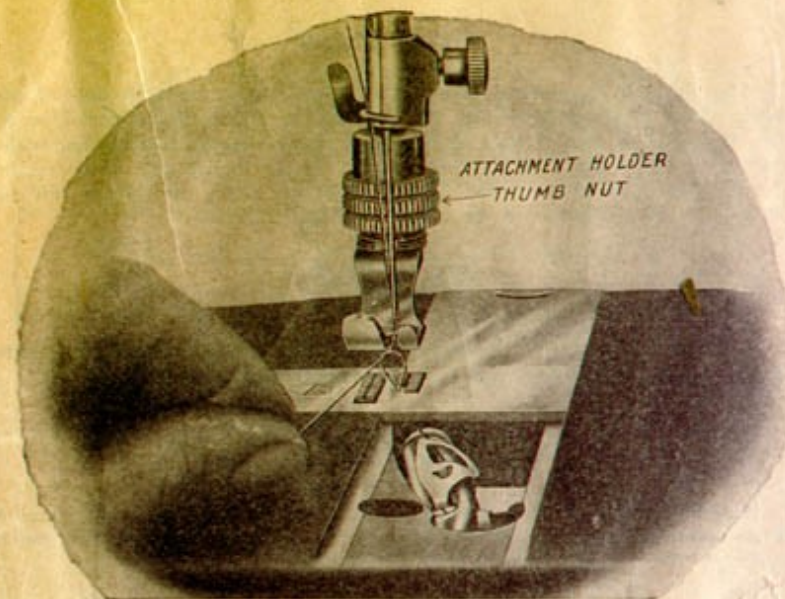
Turn the hand wheel toward you until the take-up (D) has reached its highest point.

Place the spool of thread on the spool pin on top of arm as shown in illustration, draw the thread through the face plate eye (A) above the tension, then down between the tension disks (B) and under the hook (C) at the left of the tension; then through the take-up eye (D), then back of the staple (E) on the bottom of the face plate, drawing the thread toward you so it will slip under the staple; then through the hook in the needle yoke (F), then through the eye of the needle.

Leave the end of the thread extending from the needle about three inches long.

The gauge screw may be removed when plain sewing is done.

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### TO COMMENCE TO SEW.

The machine having been properly threaded above and the shuttle placed in the carrier as explained in the preceding directions, raise the presser and take hold of the end of the needle thread with your left hand (see illustration), and with your right hand turn the hand wheel slowly **TOWARD** you until the upper thread has passed around the shuttle, then draw the shuttle thread above the needle plate as shown above. Place both threads under and back of the presser foot and the machine is ready for sewing. Place the goods under the presser foot with the needle directly over the point where you desire to commence stitching. Then start the machine by turning the hand wheel toward you.

### BREAKING THE UPPER THREAD.

This may be caused by the improper threading of the machine; the upper tension being too tight; the 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.

### BREAKING THE LOWER THREAD.

This may be caused by the shuttle being wrongly threaded; the tension being too tight; the bobbin being wound too full, so it will not revolve freely; a rough or 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.

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## THE TENSIONS.

The object to be attained is to have the stitch alike on both sides of the fabric. This is accomplished by the tensions, or strains, upon both threads. The tension upon both threads should be as nearly alike as possible, and tight enough only to make a smooth, firm seam. If the threads are of the proper size for the material used, and both tensions are right, the threads will be drawn and locked together in the center of the goods, thus:



If the upper tension is too loose or the shuttle tension too tight, the shuttle thread will lie straight along the under side of the goods, thus:



On the contrary, if the upper tension is too tight or the shuttle tension is too loose, the upper thread will lie straight on the upper side of the goods, thus:



To tighten the upper tension, turn the tension nut to the right. To loosen the upper tension, turn the tension nut to the left.

The tension cannot be adjusted when the presser foot is up.

The shuttle tension is adjusted by means of the small screw which holds the spring on the shuttle, using the small shuttle screwdriver. Turn the screw to the right to tighten the tension and to the left to loosen the tension on the thread. When the machine leaves the factory the tension in the shuttle has been set exactly right for all ordinary work and the kinds of thread generally used. It therefore needs no alteration. Any regulation of the stitch should ordinarily be made by changing the upper tension.

If, after following the above directions, you still have trouble and the machine does not make a uniform stitch, take out the shuttle, remove the bobbin, loosen the tension screw until the spring will be free enough to permit a piece of cloth to pass between the shuttle and spring. Then take a soft piece of cloth and wipe the shuttle under the spring to remove any dirt or oil that may be there.

Take a full bobbin, thread the shuttle, turn the screw down half a turn at a time until there is just enough tension on the thread to support the weight of the shuttle when suspended by the end of the thread.

Place the shuttle in the carrier and sew a few inches **SLOWLY**, and if the shuttle thread will lie on top tighten the screw half a turn at a time until the stitch will look like the top illustration.

**Note.**—Do not regulate **BOTH** upper and lower tensions at the same time.

## CAUSE OF A MACHINE MISSING STITCHES.

Should there at any time be skipped 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 to the point of the shuttle becoming accidentally blunted. Never use a needle with the point blunted or turned over.

## TO REGULATE THE LENGTH OF STITCH.

The stitch regulator is in front of the base of the arm, directly under the bobbin winder. On the stitch regulator plate is a scale of numbers which indicates the number of stitches to the inch. These numbers—No. 7, No. 10, No. 16, No. 24 and No. 32—show the number of stitches to the inch. To obtain the length of stitch desired loosen the thumb nut by turning it to the left and set the indicator with the pointer at the proper number. No. 32 gives the shortest stitch and No. 7 the longest. You can vary the stitches from the scale by setting the pointer between the numbers. Be sure to fasten the nut tightly after setting the indicator. To turn the stitch off entirely set the pointer at 0.

**Note.**—Do not use the short stitch on heavy goods. When sewing flannel or bias seams use short stitch and light tensions.

**NOTE:** If machine does not feed, examine the stitch regulator, and see if the pointer is not set at (0).

## TO REGULATE THE PRESSURE.

The amount of pressure is regulated by means of the thumb nut on top of the presser bar. Turn this nut to the right to increase the pressure and to the left to decrease the pressure. In sewing heavy or hard fabrics a heavier pressure is required than for light goods.

Too much pressure on the presser foot will make the machine run hard and will cause the feed to hesitate or stop feeding over seams.

## TO REMOVE THE WORK FROM THE MACHINE.

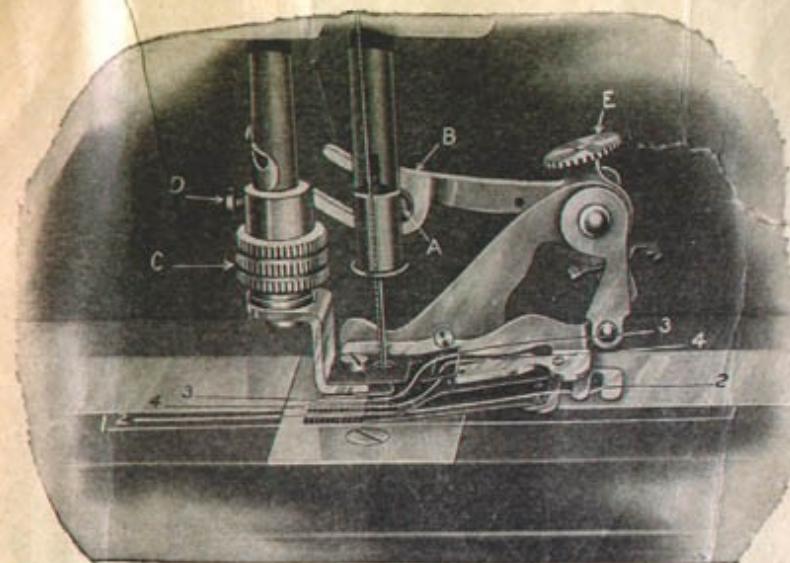
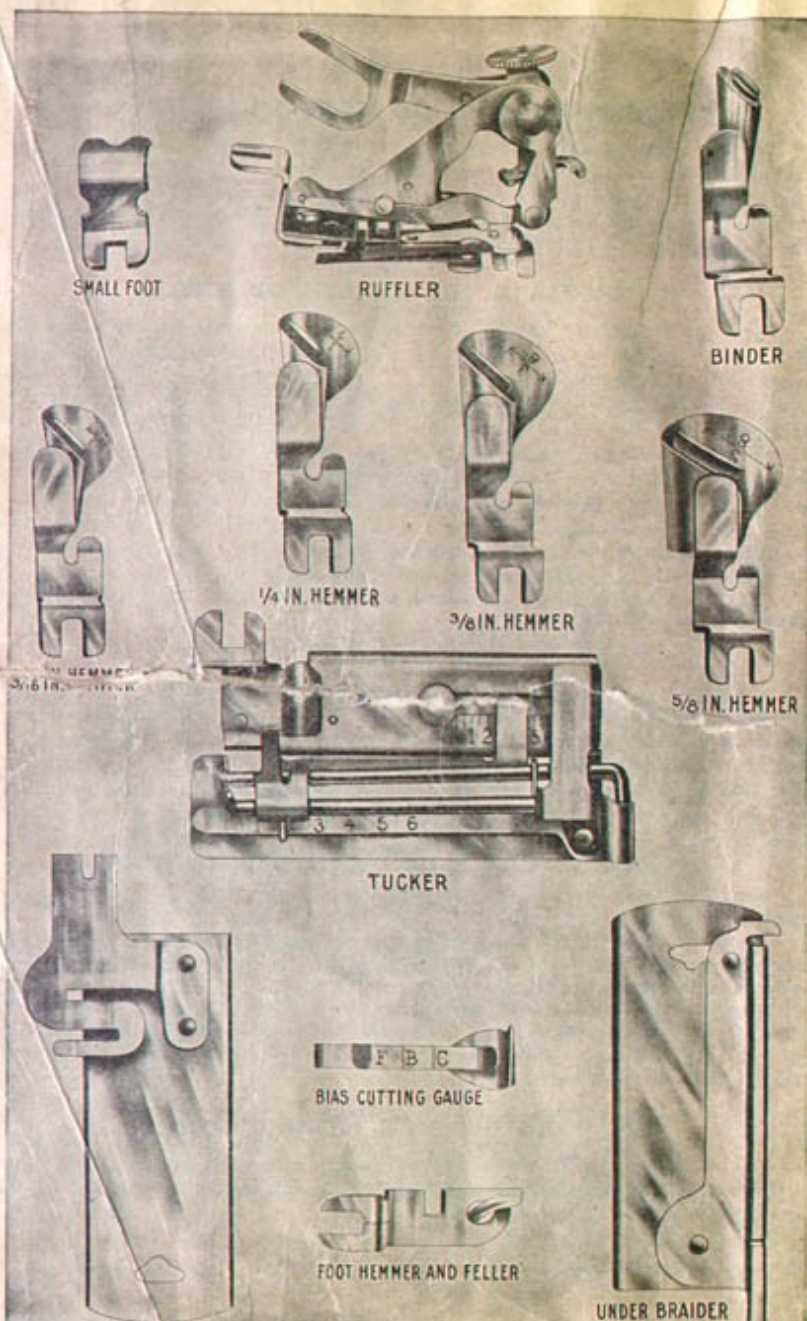
**Caution:**—Never remove the work from the machine by pulling the goods towards you.

Stop the machine with the needle at its highest point and raise the presser foot by means of the lifter. The tension on the upper thread is released automatically when the lifter is raised. With the left hand draw the work directly from you, keeping the top thread in the slot of the presser foot, which will prevent bending the needle. Then draw the threads over the thread cutter on the presser bar and pull downward, which will cut the threads the proper length to commence sewing again.

## TO TAKE OFF THE PRESSER FOOT.

Raise the needle bar to its highest point, loosen the nut just above the presser foot (see page 13) by turning it to the left until the foot is free. It can then be drawn off toward you.





### 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 thumb nut (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. Should the needle touch the side of the hole, loosen the foot holder screw (D) and swing the ruffler until the needle will pass through the center, then tighten screw (D) securely.

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.

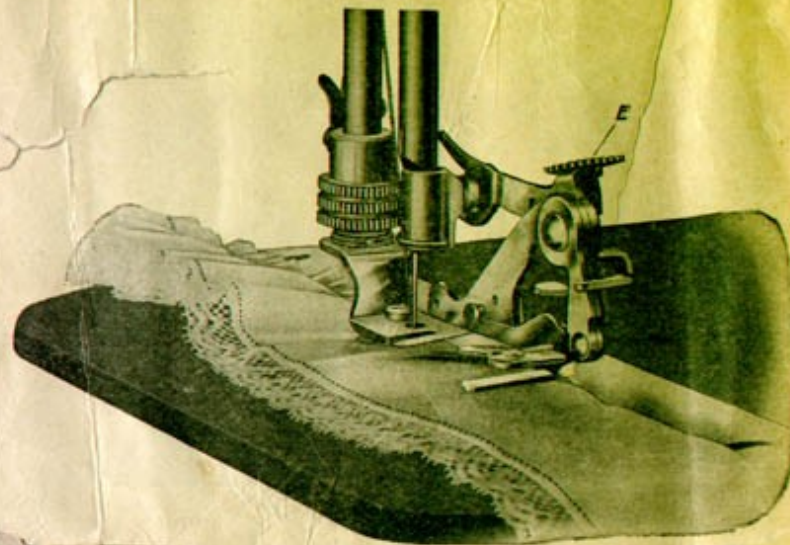
Line 2—The piece to be gathered.

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

Line 4—The strip of piping.

The thumb screw (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.

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 onto the band, place the band **under** the separating blade.

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

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### SHIRRING.

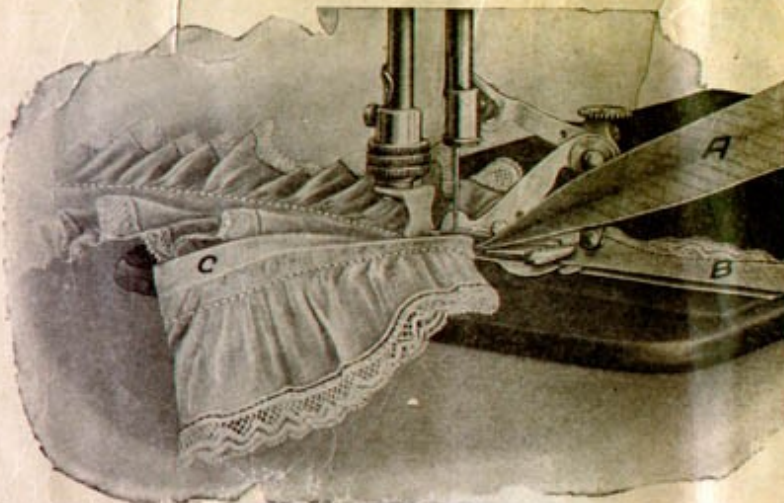
Remove the front shuttle slide and insert the shirring plate (see page 16) in its place. Before attaching the ruffler to the presser bar loosen the screw (A), back of the ruffler, take off the separating blade, as shown above, then attach the ruffler to the presser bar.

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

If the shirring is to be sewed onto the band, place the band **UNDER** the shirring blade.

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### RUFFLING, PIPING AND SEWING ON HEADING.

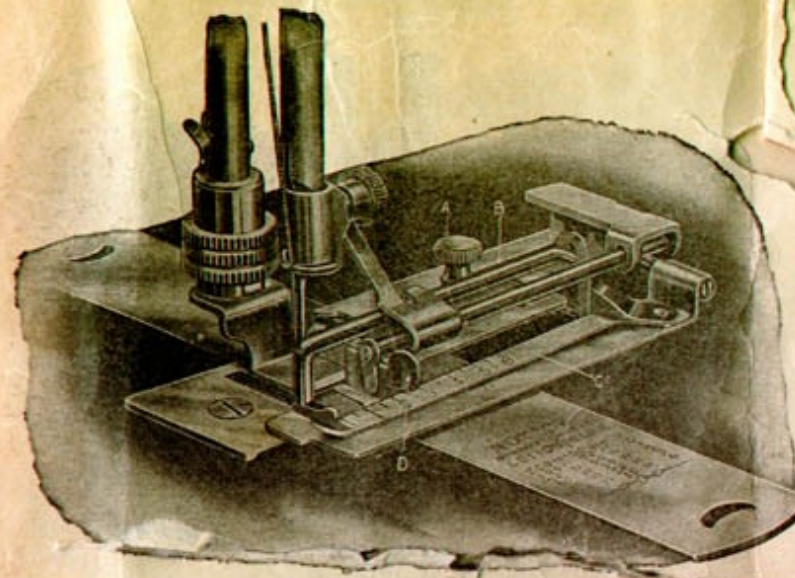
Remove the front shuttle slide and insert the shirring plate in its place. Remove the separating blade from the ruffler, as directed on the preceding page, and then attach the ruffler to the presser bar.

Fold the piping (A) and insert into the pipe gauge (see illustration and description on page 17.) Fold the heading (C) and insert into slot right in front of the piping gauge. Place the band (B) to be ruffled between the ruffling and shirring blades, lower the presser bar and commence to sew **slowly**.

The quality and variety of the work depends entirely upon the operator.

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### TO USE THE TUCK MARKER.

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. Should the needle touch either side of the hole loosen the foot holder screw and swing the tucker until the needle will pass through the center of the hole, then fasten it securely in this position.

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.

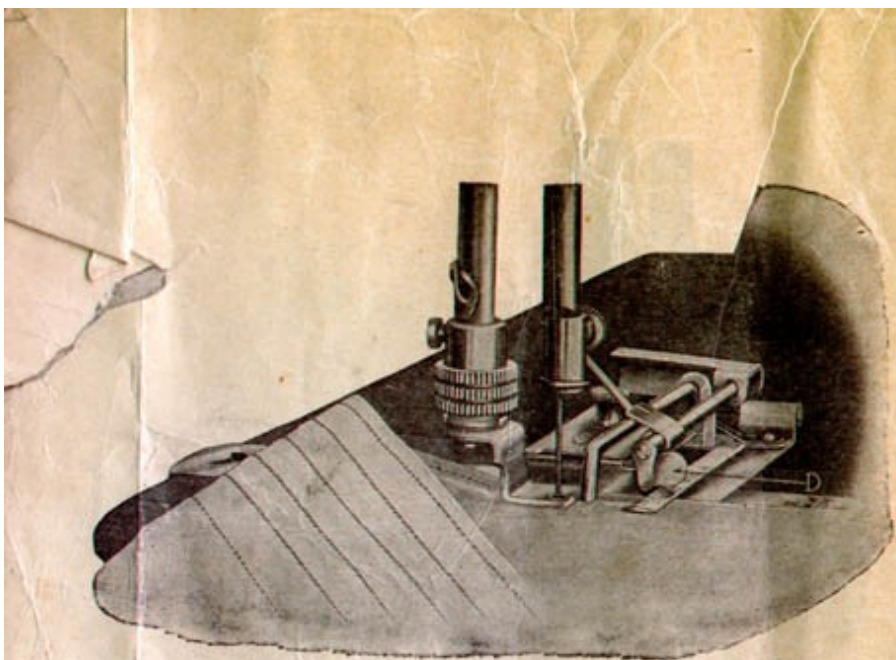
The figures on the scale (B) show the width of the tuck and those on scale (C) the width of space.

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 above adjustments have been made be sure and turn screw (A) down tight.

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[21]





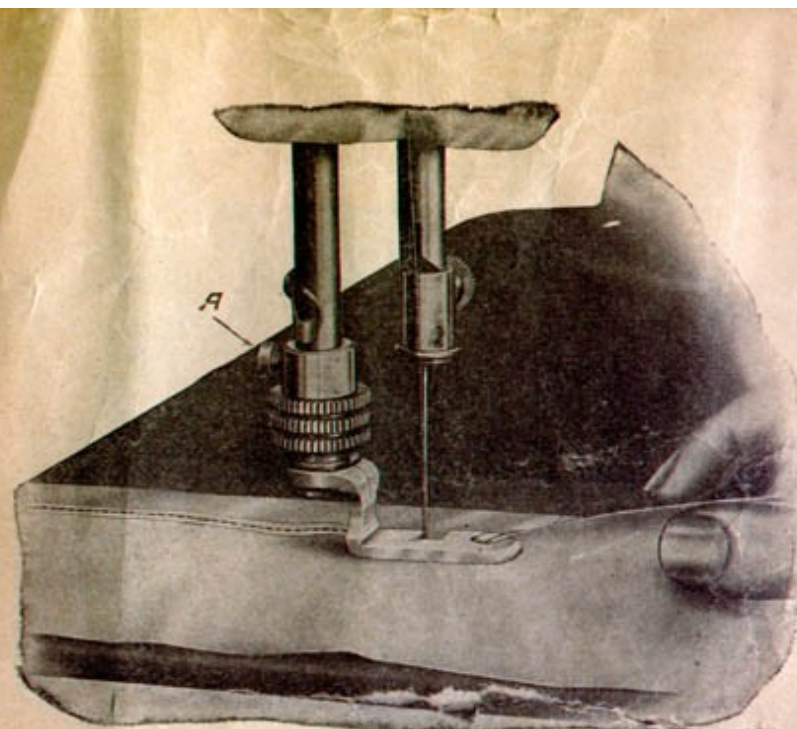
### TUCKING.

To commence tucking fold the cloth for the first tuck by hand and place it beneath and under the spring lip in front of the creaser with folded edge against the gauge (D) and push it under the needle. Drop the presser foot and sew as usual.

The marker makes a crease in the cloth as it passes over the blade. After the first tuck is completed fold the cloth on the crease and place in the tucker again as before. Continue this operation for the required number of tucks.

The illustration above shows how the Minnesota Tucker produces the work when the directions on page 21 are carefully followed. The variety of combinations is almost unlimited and either narrow or wide tucks can be made, either close together or at a distance from each other as desired.

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### NARROW HEMMING.

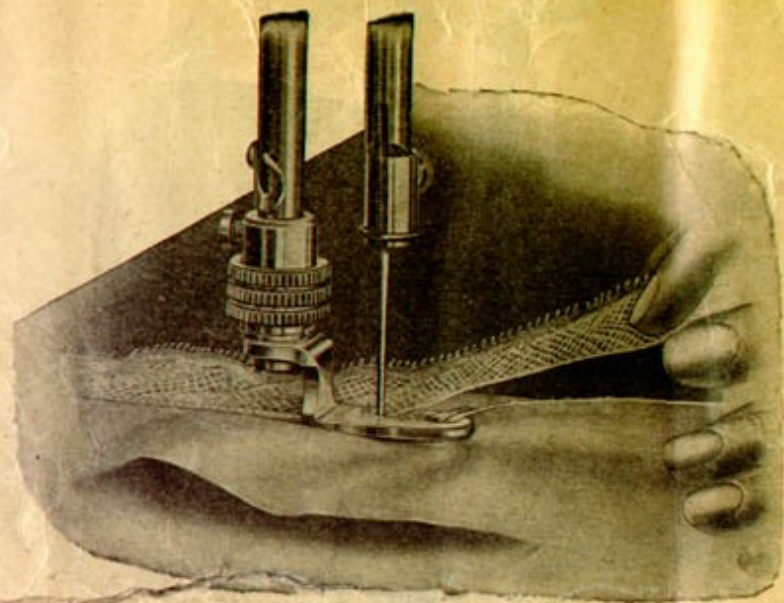
Attach the hemmer foot in place of the presser foot, clip off the right hand corner of the cloth and turn up the edge about one-fourth of an inch. Raise the hemmer slightly and insert the goods in the scroll (or mouth) of the hemmer and push it forward to the needle. Then let the hemmer down and start the machine, pulling gently on the ends of both threads to help the goods along, until the feed catches it.

Hold the edge of the goods between the thumb and forefinger of the right hand while it is being hemmed, holding back gently on the work to keep it smooth, and keeping the scroll of the hemmer just full. If there is too much turned in it will make a rough and clumsy hem, and too little will not turn under. In hemming on a curve or on flannel or "slazy" goods, draw gently on the edge being hemmed, resisting the feed, and guide the work carefully.

The stitch may be laid close to the edge of the hem or away from it by loosening the foot holder set screw (A) and swinging the hemmer to the right or the left. Be sure to tighten this screw before commencing to sew.

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#### TO MAKE A HEM AND SEW ON LACE AT ONE OPERATION.

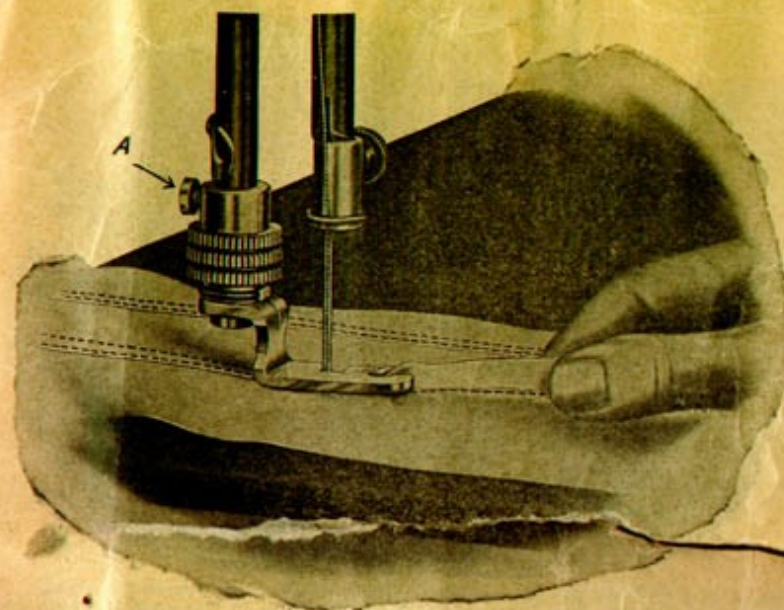
Attach the hemmer and feller and hem as already described. After one or two stitches have been made in the hem, raise the needle to its highest point, then raise the presser bar and pass the edge of the lace into the slot of the hemmer through which the needle descends, and draw the end under the needle; let down the hemmer and begin sewing, holding the goods as shown in the above illustration.

#### TO DO HEMSTITCHING.

Hemstitching can be made on this machine by the following method: Fold blotting paper (or any soft, thick paper which will tear readily) until you get the thickness of paper the same as the opening you desire to have in the hemstitching. Place one piece of goods under the blotting paper and the other on top of the paper; then place all under the presser foot and sew them together. After stitching, both pieces should be doubled back and forth several times so as to crease them well exactly on the line of the stitches. Then fold all four edges in the same direction and hold them firmly while you tear out the paper on each side of the seam, after which you open the hemstitching by folding each piece together on either side. One edge of either or both pieces can be cut straight and passed through the hemmer, or you can stitch along the edge of the hemstitching on one or both sides, and finish off the double edge as desired.

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S.

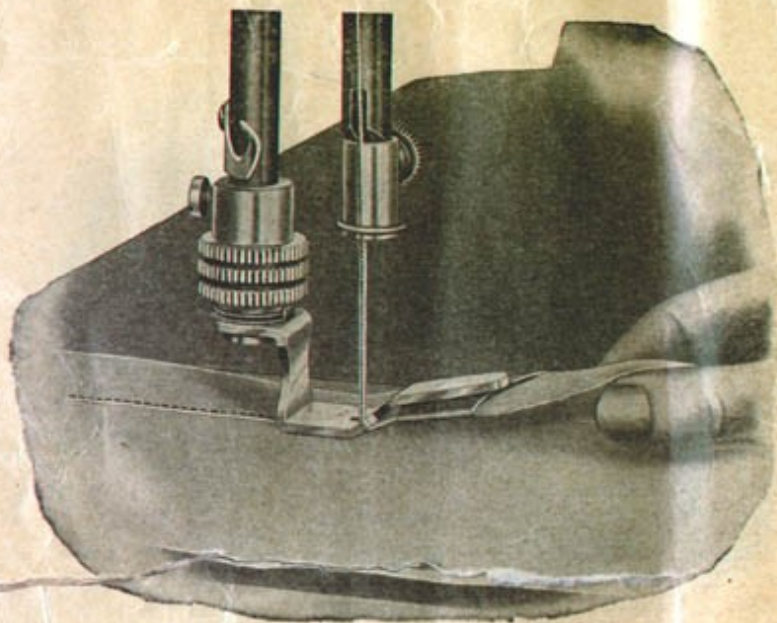


#### FELLING.

The foot hemmer and the feller are the same. If the hemmer is attached it can be used in place of the presser foot in running up the seam, the under edge of which should project about one-fourth of an inch beyond the upper, then trim off the edges, if necessary, so as to leave just seam enough to fill the feller. Open the work flat, wrong side up, and trim the corner of the seam slightly, and then push it into the feller until it reaches the needle, lower the feller on the feed and start the machine. The feed will carry the seam without helping it, and makes a complete fell from the beginning.

The feller may be adjusted to the right or left, so as to sew close on the edge of the fell, or away from it, as desired, by loosening the foot holder screw (A) and swinging the feller to the right or left. Be sure to tighten screw (A) before commencing to sew.





### WIDE HEMMERS.

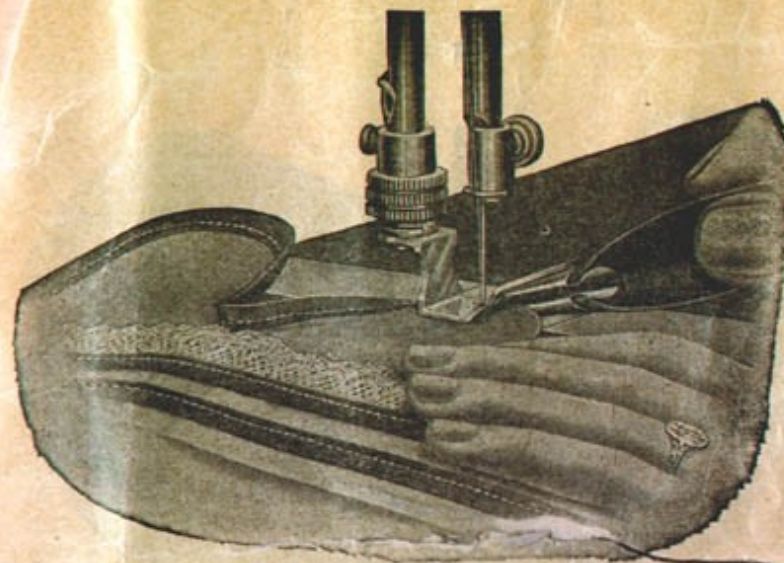
Four widths of hemmers are included in the regular set of attachments.

Remove the presser foot and attach the width of hemmer desired in place of the foot on the presser bar, fastening it securely with the thumb nut.

Fold the goods by hand the width of hem required, turning one fold only, adding about one-eighth of an 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 the two forefingers 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.

The line of stitching can be adjusted to the edge of the hem by moving the foot holder to the right or left.

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### TO ATTACH THE BINDER.

Raise the needle to its highest point; remove the presser foot and attach the binder in its place on the presser bar, fastening it securely with the thumb nut. Fold the binding lengthwise in the middle for a distance of about four 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 scroll of the binder, as shown in the illustration. If the binding cannot be forced into the scrolls use a pin or the small shuttle screwdriver, by means of which the binding can be drawn into the scrolls, and 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.

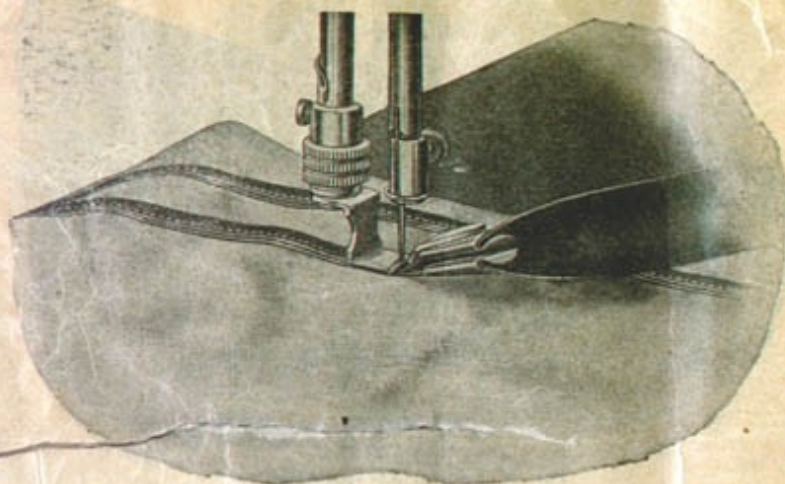
Pass the binding through the scroll of the binder and draw it back under the needle. Place the edge of the material to be bound between the upper and lower scrolls, then lower the presser bar and sew as usual. Guide the cloth with the left hand and let the binding glide easily through the fingers of the right hand to keep it straight. If the stitching should be too near or too far from the edge of the binding, the binder can be moved to the right or left by turning the foot holder (see page 23) until exactly right. For bias binding, goods of any description can be used, and the binding should be cut with the bias gauge attached to the point of the scissors (see page 29), seven-eighths of an inch wide and uniform in width. If very light "slazy" material is used the binding should be cut a little wider than seven-eighths of an 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.

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### THE FRENCH FOLD.

Insert the binding in the binder as explained on page 27. Place the cloth on which the folds are to be applied under the binder. Lower the presser bar and proceed to sew, holding the binding and cloth as shown in the illustration.

French folds can be made separately by simply stitching the binding as it passes through the binder.

The binder is ordinarily used with bias binding, which should be cut seven-eighths of an inch wide, in order to permit both edges to be properly turned in. Dress binding can be used equally well, though narrower than bias binding. It is unnecessary in this case that the edges be turned in, as dress binding has a selvage on both edges.

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### TO USE THE BIAS CUTTING GAUGE.

Place the gauge on the point of the scissor blade, as shown in the above illustration. The slide (S) may be moved up or down to regulate the width; the letter (C) indicates the regular width for cording or piping, the letter (B) for binding and the letter (F) for French folds.

### THE BELT.

If the belt is too tight the effect is to make the machine run heavy. It should be just tight enough so that it will not slip when the band 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.

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#### TO USE THE UNDER BRAIDER.

Remove the front race cover and slide the braider in its place, as shown above. Take off the regular presser foot and put on the special foot with two short prongs. Draw the braid through the braider tube, as shown in illustration, 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 the goods under the presser foot, with the **pattern side up**, 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 illustration above.

To make a square or sharp angle, sew to the point of turning; stop the machine while the needle is on its first rise and before it is out of the cloth; slightly raise the presser foot and swing the cloth round 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 lay in the lap of the operator.

#### TO APPLIQUE WITH BRAID.

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

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#### TO DO QUILTING.

Loosen the thread cutter screw (A) and pass the quilter shank (I) through the hole in the presser bar made for that purpose as shown above.

Adjust it to the right or left, according to the distance required between the lines of stitching. Fasten it by the small screw (A) in the presser bar, having the guide of the quilter raised just far enough above the bed of the machine to allow the free passage of the work under it.

Guide the work so that the last line of stitching will be directly under the quilter. This will make the lines of stitching perfectly straight and equal distances apart.

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