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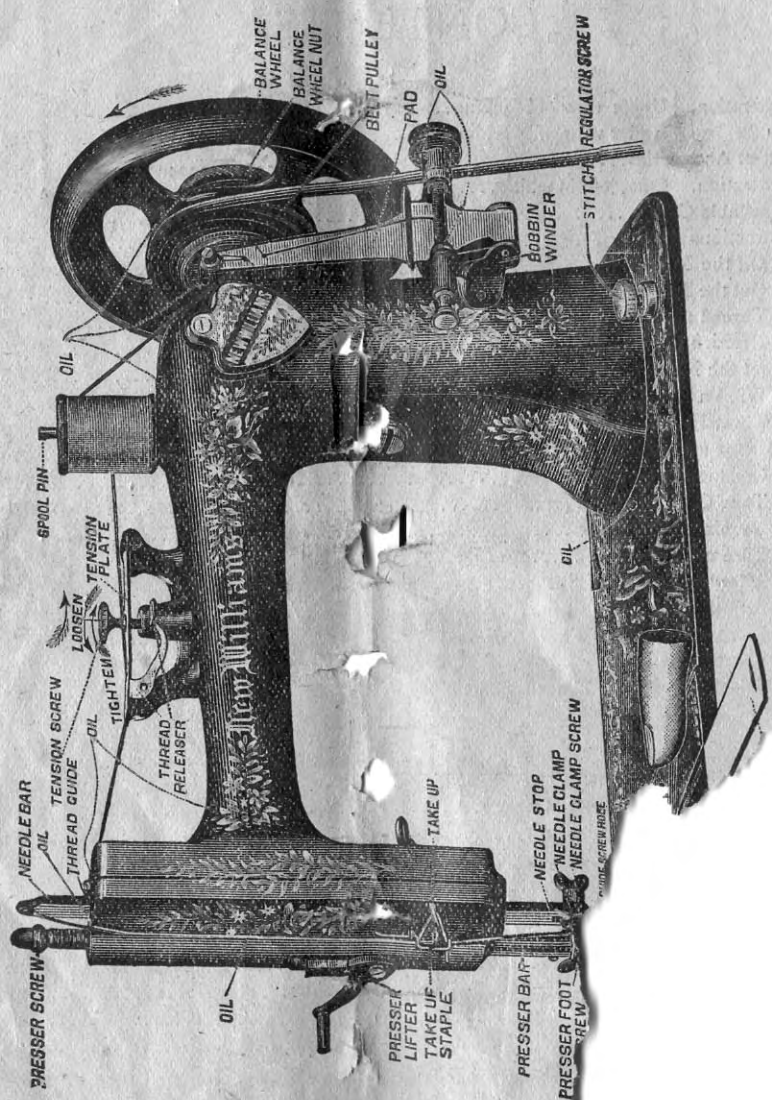
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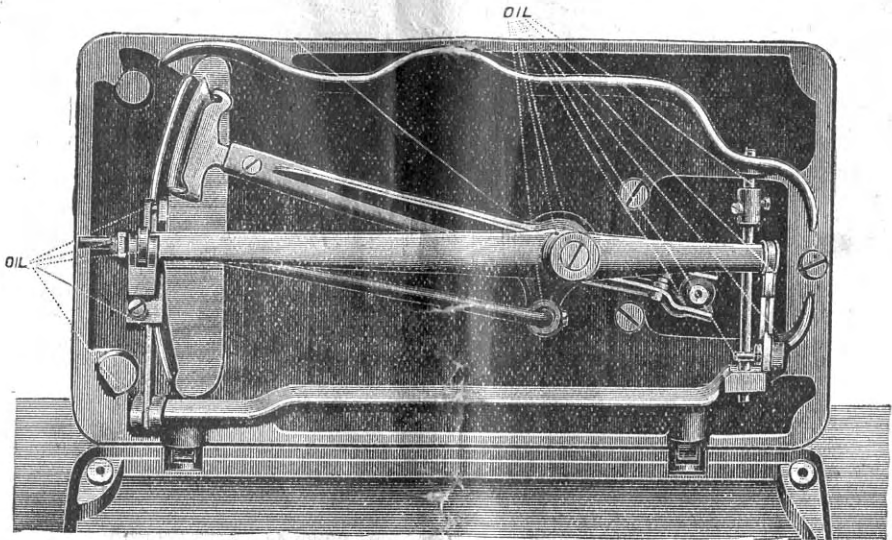
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This cut is intended for reference, and shows ve
 tion the wheel should turn, the threading of Machin
 and gives the names of all the parts to which
 instructions. It also indicates the places to
 manner of drawing up the under thread.



Head of Machine, showing under mechanism, and points at which oil must be applied.

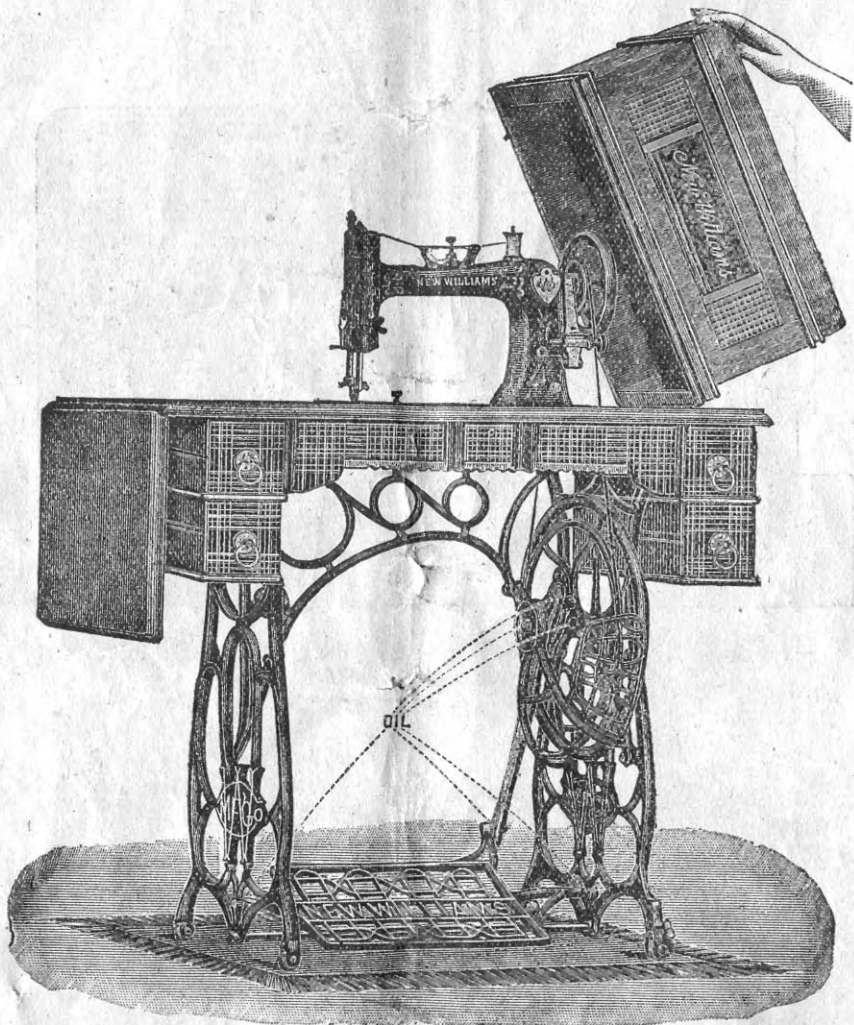
ATTACHMENTS AND ACCESSORIES.

We furnish free with each New Williams Machine.

Six Bobbins,	One Thumbscrew,	One Shirring Blade,
One Screw Driver,	One Foot Hemmer or Feller,	One Binder,
Twelve Needles,	Four Plate Hemmers (Set),	One Braider,
One Guide,	One Tucker,	One Oil Can,
One Quilter,	One Ruffler,	One Thread Cutter,
One Bottle Oil,		

One small Screw Driver for Shuttle Tension Screw.

The above articles constitute the most valuable and useful outfit furnished with any Machine in the market.



Special attention is called to our PATENT DEVICE FOR AUTOMATICALLY ADJUSTING THE LEGS OF MACHINE to any kind of floor. On the foot of the right front leg, you will notice a small Thumbscrew, which, when loosened, releases the adjustable Castor, which will at once cause all the legs to rest on the floor. Tighten the Screw and the Machine will stand solidly, thus in a very simple manner, obviating the necessity of "WEDGES," "SCREW DRIVERS," etc., being stuck under the leg to level up the Machine; and when moving the Machine to another place, it is only necessary to repeat the loosening and tightening of the Thumbscrew to ensure a solid standing Machine. The dotted lines indicate the where oil is needed.

INSTRUCTIONS FOR USING THE MACHINE.

TO OIL THE MACHINE.

(See Cuts on Pages 4, 5 and 6.)

1st.—See that the Machine is CLEAN, then oil in all the small round HOLES and wherever there is any friction of the working parts. Oil the working parts of the STAND as well as the head of the Machine. Use only the best Sewing Machine Oil. Only a small quantity should be used at a time.

2nd.—The curved side of the RACE against which the Shuttle works should be oiled at least twice a day when the machine is in constant operation.

3rd.—After the Machine has been oiled, run it (with PRESSER-FOOT up and SHUTTLE out) for a minute, and then wipe off the superfluous oil.

4th.—If the oil becomes gummed, causing the Machine to run hard, put a little KEROSENE or ALCOHOL in the OIL-HOLES, run rapidly, wipe clean, and then oil with Sewing machine Oil.

TO GET THE MOTION.

1st.—Unthread the NEEDLE ; remove the SHUTTLE, and raise the PRESSER-FOOT by turning the LIFTER-HANDLE from you.

2nd.—Place the feet on the TREADLE, with the instep directly over the ROD upon which the TREADLE rests.

3rd.—Start the Machine by placing the right hand upon the top of the BALANCE WHEEL and revolving it from you.

4th.—Place a piece of cloth on the FEED and let the PRESSER-FOOT down, and practice starting and stopping the Machine until you can do so with ease.

TO THREAD THE MACHINE.

1st.—Raise the Needle to the highest point by turning the wheel from you by hand.

2nd.—Place the SPOOL on Spool-pin and pass the thread into the slot in the Tension Spring, carrying it to the left under the point of the flat THREAD-GUIDE, and through the hole in the top of the NEEDLE-BAR. Pass the thread down behind the CHECK LEVER THREAD-GUIDE (a bent wire near the lower end of the Face-plate), drawing it towards you between the Guide and the Face-plate. Next pass it over or into the hook of the CHECK LEVER, after which, push it back from you, between the THREAD-GUIDE and Face-plate, thence bring it down to the needle, and pass it through the eye from left to right, leaving about three inches extending beyond the needle. See Cut, page 4.

TO REMOVE THE NEEDLE.

Raise the NEEDLE-BAR to its highest point ; take hold of the NEEDLE with the thumb and finger of the left hand, and with the right hand loosen the NEEDLE-CLAMP by turning the top of the winged NEEDLE-CLAMP NUT toward you about a turn, not more ; then lower the Needle and remove it.

TO SET THE NEEDLE.



Fig 1

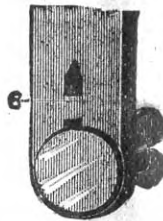


Fig 2

Now observe the illustration above. Fig. 1 shows the NEEDLE ; A is the shank and B the self-adjusting stop. Fig. 2 shows the end of NEEDLE BAR and CLAMP, and just above the CLAMP, and in the groove that receives the NEEDLE, is the stop C, against which the end of stop B (Fig. 1) rests, as clearly shown in Fig. 3. Pass the shank of NEEDLE up into the groove of the NEEDLE-BAR, keeping the shoulder to the right and the long groove to the left. Guide it up until it rests against and covers the stop C (Fig. 3), then fasten by turning the top of winged THUMB-NUT from you. As the NEEDLE is self-setting, this brings it correctly into place.

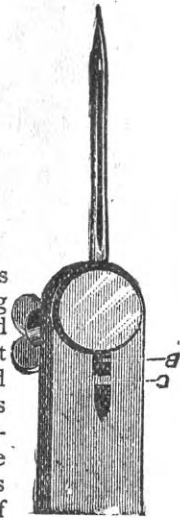


Fig 3

TO WIND THE BOBBIN.

Examine the Cut on page 4, and the threading will be better understood.

1st.—Oil the cavity in the end of the SPOOLER-SPINDLE and the bearing of the SPOOLER-PULLEY before inserting the BOBBIN.

2nd.—At the end of the Upper Shaft, and to the right of the Balance Wheel, will be found a nut. Turn this nut a little to the left or towards you ; this will loosen the Balance Wheel, so that it will turn freely, without running the Machine.

3rd.—Put the BELT into the groove in the PULLEY of the WINDER.

4th.—Place the spool of thread on the spindle on the top of arm of Machine, draw off a few inches of thread, and pass the end of it through the small hole in brass head of Bobbin from the inside.

5th.—With the left hand pull the SPINDLE to the left and insert the BOBBIN, taking care to put the little pin in the socket to the right enters the hole in the end of the Bobbin.

6th.—Pull the TENSION-PAD towards you until it presses against the Bobbin.

7th.—Take hold of the thread just above the top of the Tension-Pad, pass it into the right hand slot in Pad, then round behind into the left hand slot, then from right to left around the Tension Screw between the Tension Discs, then again through the left hand slot, then roll up on the Spool any slack thread that may remain between Winder and Spool.

8th.—Start the BALANCE WHEEL from you by hand, and proceed as in sewing.

9th.—When done winding, turn the nut to the right, or from you, to tighten the wheel, and remove the belt from the Winder Pulley.

(See Illustration, page 12.)

TO THREAD THE SHUTTLE.

N.B.—Remember the Shuttle is Self-threading.

1st.—Hold the SHUTTLE between the thumb and middle finger of the left hand, point down, and spring side towards you.

2nd.—Take the BOBBIN between the thumb and forefinger of the right hand, holding it so that the thread will draw up and over FROM LEFT TO RIGHT.

3rd.—Drop the BOBBIN into the SHUTTLE, and press it gently on the end with the forefinger of the left hand to prevent its turning readily. Draw the thread into the notch at the end of the spring shown in Fig. 1, continue to draw the thread firmly down towards the point of the SHUTTLE, and you will find that it will pass under the different points of the Tension Spring, and finally come into the position shown in Fig. 2. The SHUTTLE is now threaded and ready for use.

Figure 1.

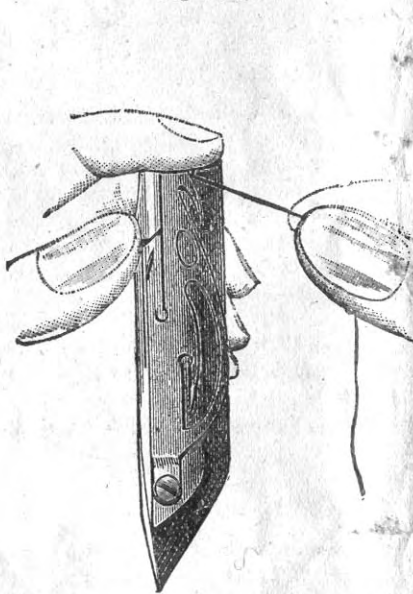
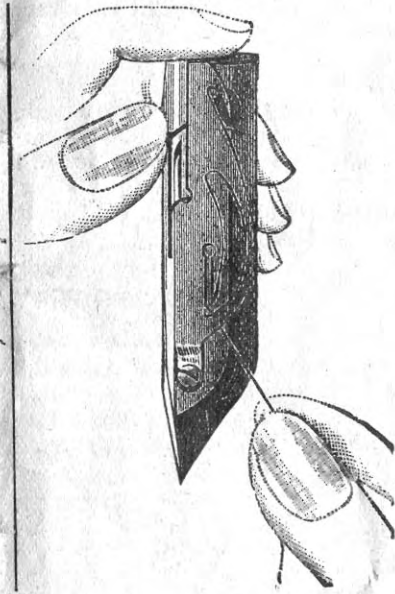


Figure 2.



To increase the tension, turn the screw to the right ; to decrease it, turn to the left. A very small screw-driver is furnished for this purpose.

To put the SHUTTLE in : Have the CARRIER at one end of the race, and lay the SHUTTLE in the CARRIER, point first, and towards you, the spring side up. Let the end of the thread (about three inches) lie over the SHUTTLE and CARRIER, on your right and close the slide.

TO DRAW UP THE SHUTTLE THREAD.

See Cut, page 4—Position of thumb and Thread.

Take hold of the BALANCE WHEEL with one hand and the Needle-thread with the other. Let the thread lie slack, so as not to spring the Needle. Move the Wheel from you once round, and pull up the slack of the needle-thread with your hand, in order to draw the Shuttle-thread up through the needle-plate; then take both threads and pass them under the PRESSER-FOOT, towards the back of the Machine. Then close the slide over the SHUTTLE-RACE.

TO COMMENCE SEWING.

Place the work on the FEED and let the PRESSER-FOOT down on it. Guide the work with the left hand, starting the machine with your right hand by turning the WHEEL from you. The work should be kept free, so as not to drag or hold back on the FEED.

TO TAKE OUT THE WORK.

Raise the Needle-bar to its highest point, and lift the PRESSER-FOOT off the goods. With the forefinger of the right hand press down the Lever of the Thread Releaser (which will be found in front of the Tension plate) while with the left hand you draw the work out back from the Machine. Break or cut both threads about three inches from the Needle by means of the THREAD-CUTTER.

TO REGULATE THE TENSION.

To tighten the Tension of upper thread, turn the TENSION THUMB SCREW to the right. To lessen it, turn to the left. If the upper thread is not properly drawn into the cloth, loosen the upper tension. If the under thread is not properly drawn into the cloth, tighten the upper tension. (*See Hints to Users, No. 7, page 26*).

TO TURN A CORNER.

Stop the Machine without raising the Needle more than half way out of the work; raise the PRESSER-FOOT, and turn the work in the manner desired, using the Needle as a pivot.

TO ALTER LENGTH OF STITCH.

The STITCH ADJUSTING SCREW is in the front of the NEEDLE-ARM BASE, and near the BED-PLATE. To lengthen the stitch, turn the THUMB-SCREW to the left; to shorten the stitch, turn the Screw to the right.

TO ADJUST THE PRESSURE ON WORK.

Hard, stiff goods require more pressure than light or soft goods. To increase the pressure turn the PRESSURE-SCREW at the top of the Machine to the right ; to decrease it, turn the screw to the left.

TO RAISE OR LOWER THE FEED.

At the left end of the feed-lever is a block attached to the lever by means of a screw. Loosen the screw and push up the block to raise the feed, or pull it down to lower the feed. When you have the feed to the right height, then tighten the screw.

THE BELT.

The belt should be tight enough to run the Machine without slipping. Should it be necessary to shorten it, open one end of the wire hook which join the ends of the Belt together ; cut a small piece off the end which you have unfastened, make another hole for the hook, and join it again.

TO SELECT NEEDLES AND THREAD

The following table may be a useful guide :—

THREAD	SILK	NEEDLE	
300 to 500	000	1	For the very finest work.
120 to 200	00	2	For the very finest work that ordinarily occurs.
90 to 110	0	3	For fine underclothing, etc.
70 to 80	O & A	4	For common underclothing, calico, etc.
40 to 60	B	5	For unbleached cotton or linen fabric, etc.
12 to 36	C	6	For heavy work.
0 to 10	D & E	7	For very heavy work.
		8	The coarsest soft goods.

USING THE ATTACHMENTS.

NARROW HEMMING.

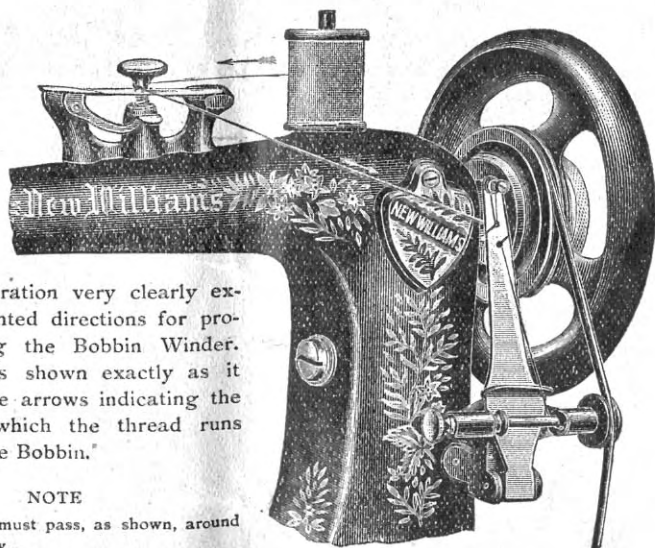
See Opposite Page.

Put the HEMMER in place of the PRESSER-FOOT, and hold it up by the lowest lift. Have the under thread drawn up through the needle-hole.

Turn the right hand edge of the work upward into the scroll of the HEMMER, while passing it from you through the HEMMER, until it inclines over to the left, and forms a hem which must lay under the Needle. Then let the Hemmer down.

As you start to sew, pull gently on the ends of the thread to help the work along one or two stitches until the FEED catches it, then rest your hands back on the table and gently hold back on the work to keep it smooth and in line with the feed. As it runs through the hands, turn it (enough to fill the hemmer) straight up from the table. Do not attempt to fold it over nor to place it in the hemmer, but keep your hands so far away that the hemmer can act freely, when it will only require the proper quantity of goods to make an absolutely perfect hem.

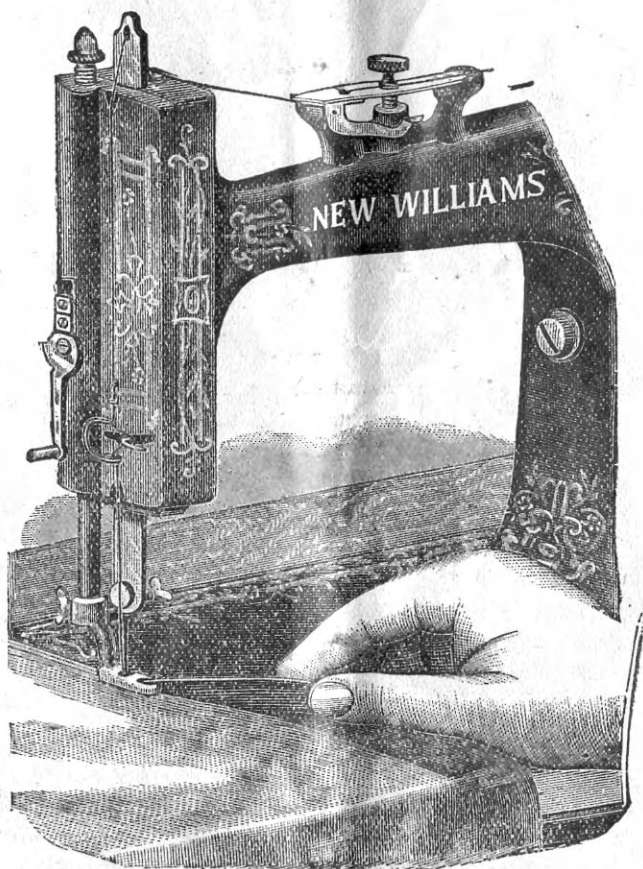
To bring the stitching close on the edge of the hem, the hemmer should be set close to the needle ; but for course, rough work, it is well to set it off a little.



This illustration very clearly explains the printed directions for properly working the Bobbin Winder. The thread is shown exactly as it should be, the arrows indicating the direction in which the thread runs while filling the Bobbin."

NOTE

The thread must pass, as shown, around the tension screw.



NARROW HEMMING.

(See Opposite Page.)

This Hemmer is furnished with the Machine without extra charge.

THE HEMMER SET

(See Opposite Page.)

This set consists of four Hemmers for making hems of various widths, and they are attached to the foot holder just the same as the Presser-foot, which is first removed.

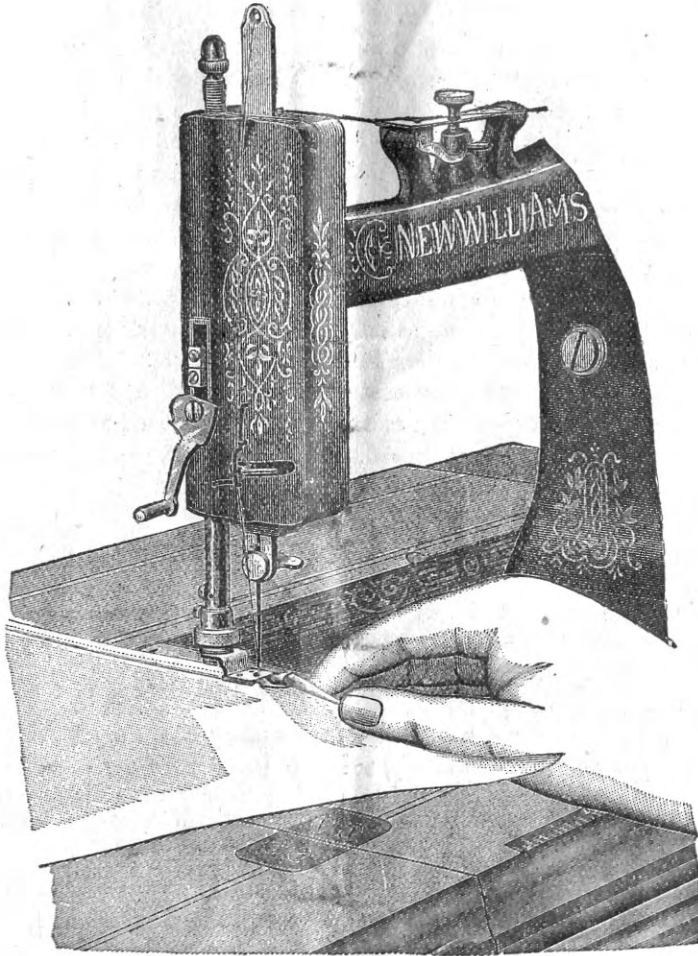
These Hemmers are very convenient for general family use, making good even hems on all kinds of goods, and the improved construction makes it possible to form perfect hems on either straight or bias cut goods, even when seams have to be crossed.

Each Hemmer is so adjusted as to bring the seam in the correct position, but as there is a slight amount of slackness in the slot that fits the holder, it is possible to vary somewhat the distance of the seam from the edge of the hem, by holding the Hemmer either to the right or left as desired, when clamping it on the holder.

The Clamping nut of the holder should be turned until it firmly holds the Hemmer in position.

The construction of these Hemmers simplifies very much the operating, and yet it is necessary to make the start correctly, but by following the instructions any person able to operate the machine can make good work with these attachments.

Take the end of the piece to be hemmed and enter it into the scroll of the Hemmer, the needle being at its highest point and the foot raised, draw the material in through the Hemmer, out and beyond the foot, drawing in material sufficient to fill the scroll but not to crowd it; this will fold the material ready for the seam, then draw back the material until just where the needle may start at the edge, let down the Presser-foot and start the machine, guiding the material so that enough will turn up to fill the scroll. It may at times be necessary to assist the feed with the left hand at starting, by lightly pulling the material in the direction of the feed.



WIDE HEMMING

(See Opposite Page.)

The Hemmer Set contains four Hemmers and a Binder.

FELLING.*(See opposite page.)*

If the HEMMER (which is also the FELLER) is on, it can be used simply as a presser in running up the seam, the edges of which should be trimmed if necessary, as in hand felling.

Open the work flat, wrong side up, the seam standing up straight, and taking the work near the beginning of the first seam in the left hand, and the ends of the thread in the right hand, draw the edges into the FELLER, and let down the FELLER without disarranging the work.

Slightly lengthen the stitch and sew the second seam.

NOTE.—The WIDE EDGE should be of such a size as to just fill the FELLER, and should be kept smooth. The NARROW EDGE should be TRIMMED as close as security permits. In sewing the second seam of a fell, the first seam should pass close to the left hand edge of the opening of the FELLER, over which BOTH EDGES of the cloth should be made to pass. The FELLER may be adjusted to the right or left, so as to sew close on the edge of the fell, or near the first seam, as desired.

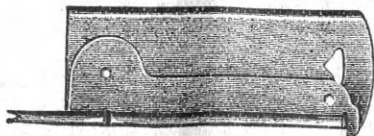
THE UNDER-BRAIDER.

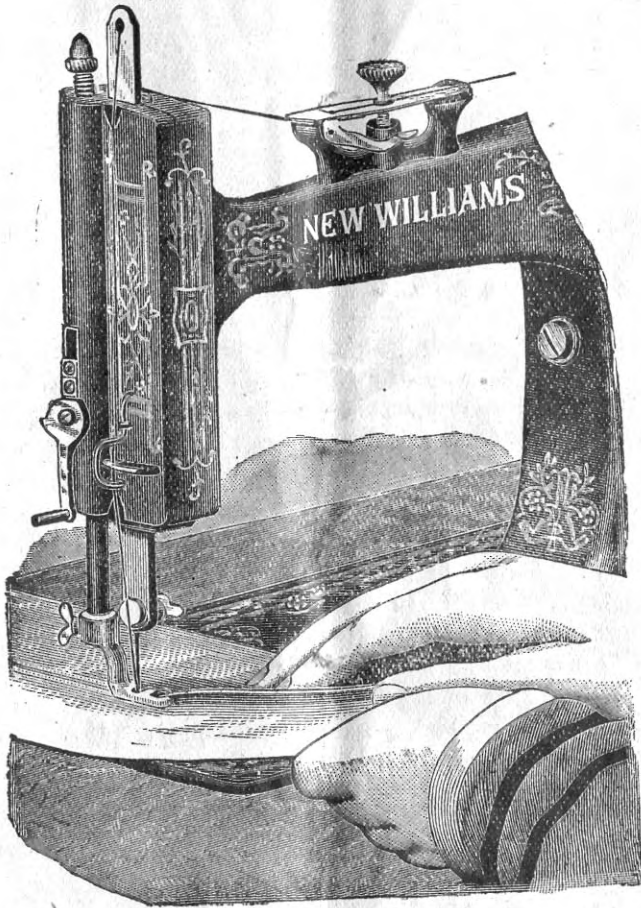
To use the Braider remove the front shuttle slide and in its place insert the Braider Guide. Remove the ordinary sewing foot and put on the short foot.

Insert the braid in the groove in the guide ; let the end of the braid extend over the teeth of the feed.

By means of the thumb-nut which will be found on the lower part of the arm of the machine just back of the needle-bar, adjust the vibrator so that when operating the machine the presser-foot will be raised slightly off the goods when the needle is down, which takes the pressure off the goods and makes it possible to turn very sharp corners, using the needle as a pivot, thus rendering the braiding of the most intricate patterns a comparatively easy matter. For under braiding the pattern is stamped or traced on the wrong side of the goods, which must be kept uppermost while the braiding is being done.

Proceed to sew with a rather long stitch and a fairly tight top tension, so as to make the stitch perfect on the braid which is below the goods.





FELLING.

(See opposite page).

This operation is performed with the hemmer.

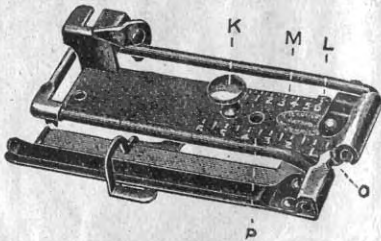
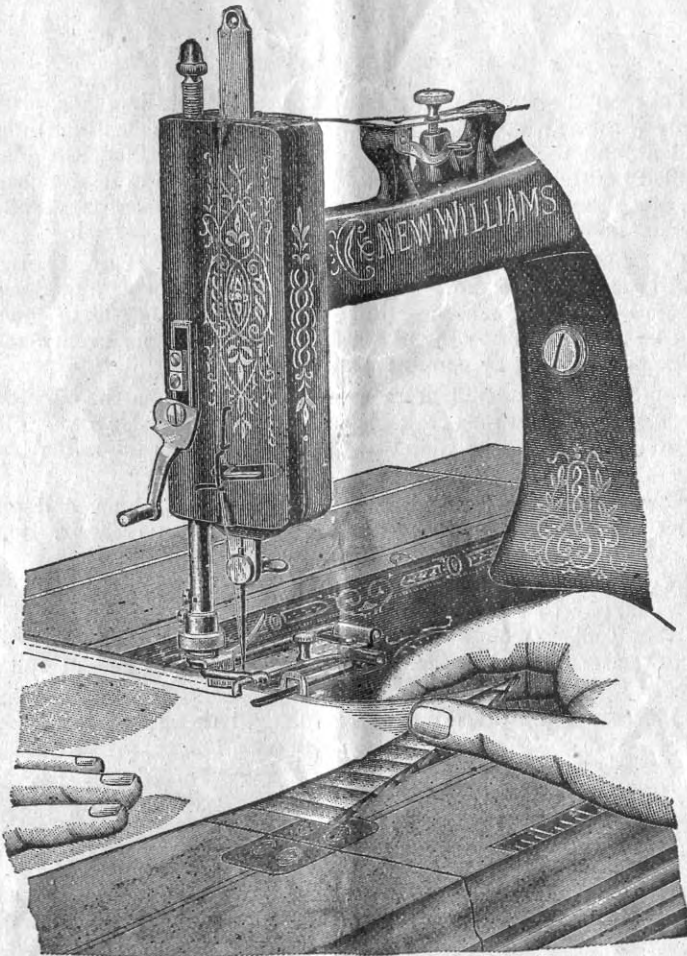
TUCKING

(See Opposite Page.)

Remove the regular foot, and with the needle up, slip the Tucker in its place fastening it firmly with the clamping nut. To set the Tucker to make the desired width of tuck, loosen the screw **K** (see cut of Tucker on opposite page) and move the guide pointer **L** to the desired width of tuck as shown on the scale **M**. The divisions on the scale **M** are $\frac{1}{8}$ of an inch apart, hence, when the gauge is set at 1, the tuck will be $\frac{1}{8}$ in. wide; when set at 3, it will be $\frac{3}{8}$ in. wide, or at 6, $\frac{3}{4}$ in. wide.

The scale **P** on the opposite side is for the marker, and the divisions are of equal spacing so as to bring the tucks just to meet. For instance, if the gauge pointer **L** be set at 2 on scale **M** and the gauge pointer **O** be set at 2 on scale **P**, it will produce tucks $\frac{1}{4}$ in. wide, and that just meets. The first tuck must be folded by hand, and, in the process of sewing, each subsequent tuck is marked at the proper place to fold for next tuck.

By moving the arm on which the needle bar strikes back, an ordinary seam can be made without taking the Tucker off, which is sometimes very desirable.



TUCKING

(See Opposite Page.)

GATHERING OR RUFFLING

(See *Opposite Page.*)

HOW TO USE THE RUFFLER.

Take off the Presser-foot and put the Ruffler in its place, clamping it firmly with the nut. The forks of the lever **A** (see small cut) must be placed around the thumb nut of the needle clamp. Place the goods to be ruffled between the steel blades **F**. If the ruffle is to be attached to a band, place the band below both blades; or a band may be sewed both below and on top of the ruffle, suitable guides being provided.

To make scant ruffling, raise the adjusting nut **B** and shorten the stitch to the desired length. To make larger pleats or gathers, lower the nut **B** and then lengthen the stitch to match—the length of the stitch should be made to match the pleat, so that they will lie evenly and not pile upon each other, or be too far apart.

For Shirring or Ruffling more than one inch from the edge of wide goods, slightly loosen the screw **D** on the right hand side of the Ruffler when it is in the machine, and remove the part with the under blade **F** attached.

Now remove the front shuttle slide of the machine, and put the Shirring slide in its place, PUSHING IT AS FAR AS IT WILL GO, and proceed to ruffle as instructed above.

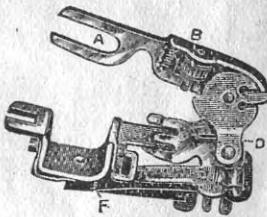
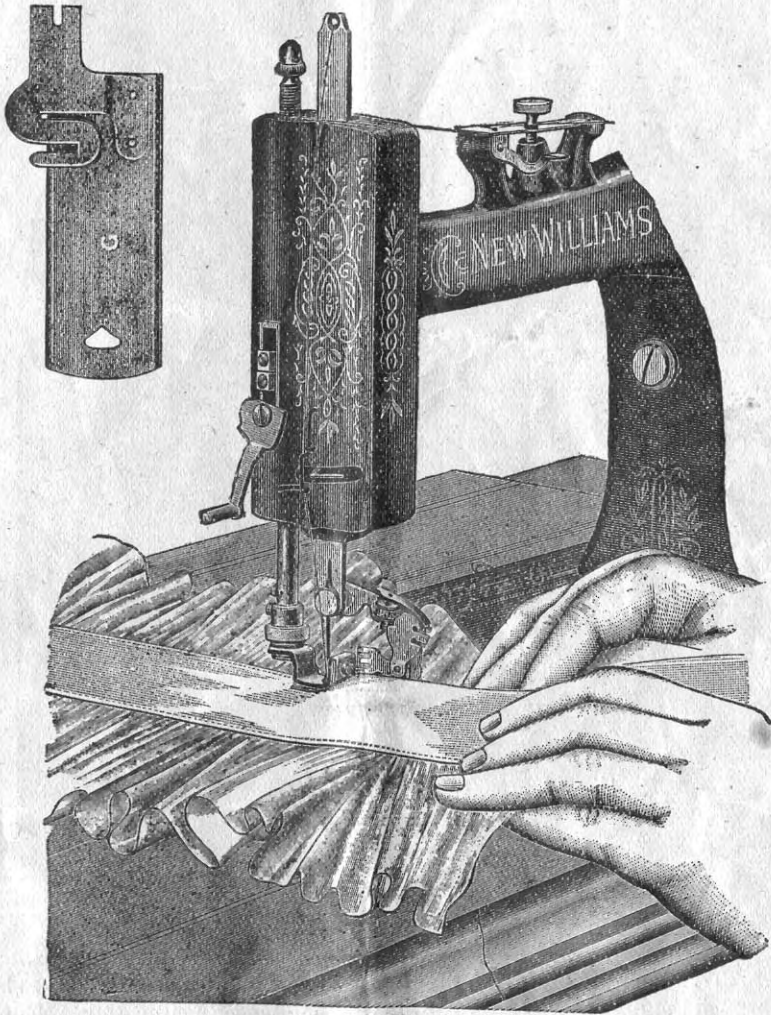
NEVER TRY TO USE BOTH THE SLIDE **G** AND UNDER BLADE **F** AT THE SAME TIME, nor to ruffle without one of them. Never run the machine when the Ruffler is on without goods between the blades, as the movement of the teeth of the upper blade against the lower one will dull them and make them useless.

Oil the working parts of the Ruffler slightly before using it.

SHIRRING.

Among the attachments will be found a piece similar to the front shuttle slide, but having a small notched plate attached to it near one end. This is known as the *Shirring Blade*, and is used only in connection with the Ruffler.

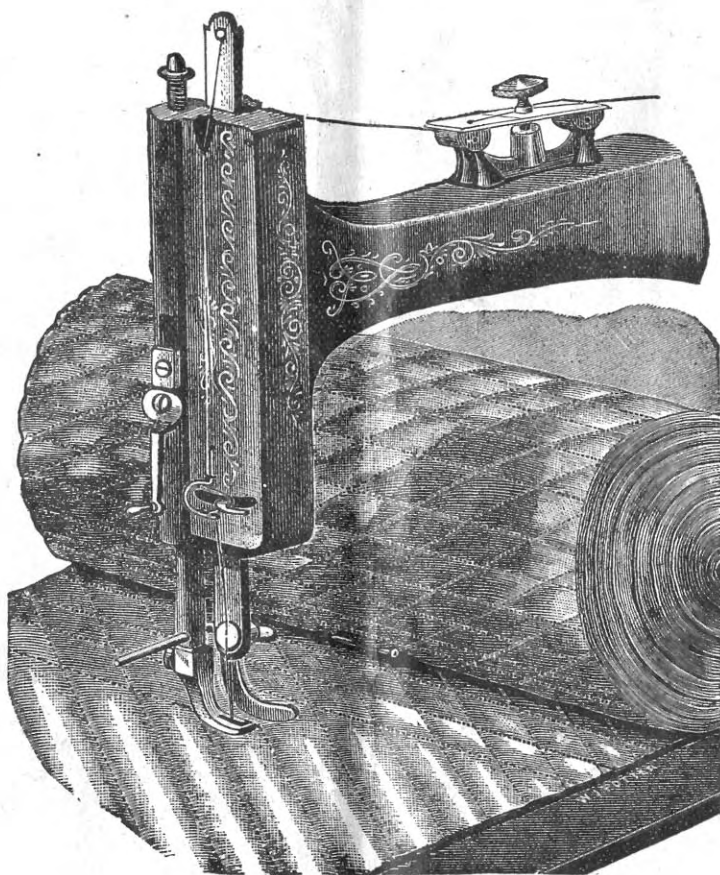
To prepare the Ruffler for Shirring remove the lower blade; this is done by loosening the screw at the back of the ruffler-foot and slipping it out towards the right. Remove the front slide that covers the shuttle, and put the shirring-plate in its place; *when this is properly done the blade covers the feed*. This enables you to bring the shirring blades into the centre of your goods, or rather to place your goods between the blades at *any required distance from the edge*.



RUFFLING

(See Opposite Page.)

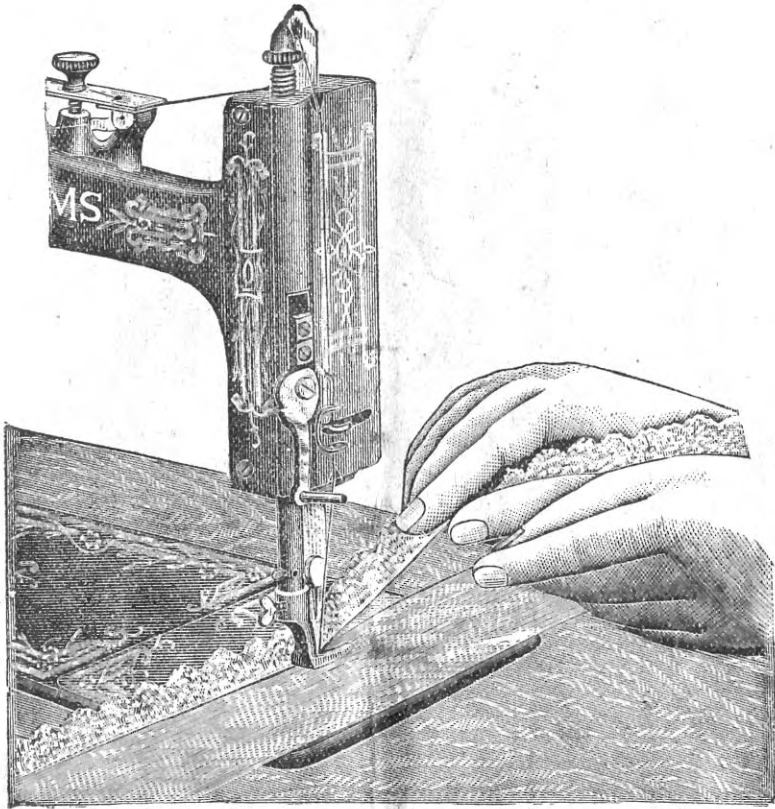
A great variety of work can be done with this Attachment.



QUILTING

To attach the QUILTER, pass the ROUND ARM of it from right to left through the hole in PRESSER BAR, bringing the flat or GUIDING-ARM at a distance to the right of the NEEDLE equal to the desired distance between the seams, and just high enough to allow the work to pass freely under it. Fasten by the screw at the back of the PRESSER-BAR.

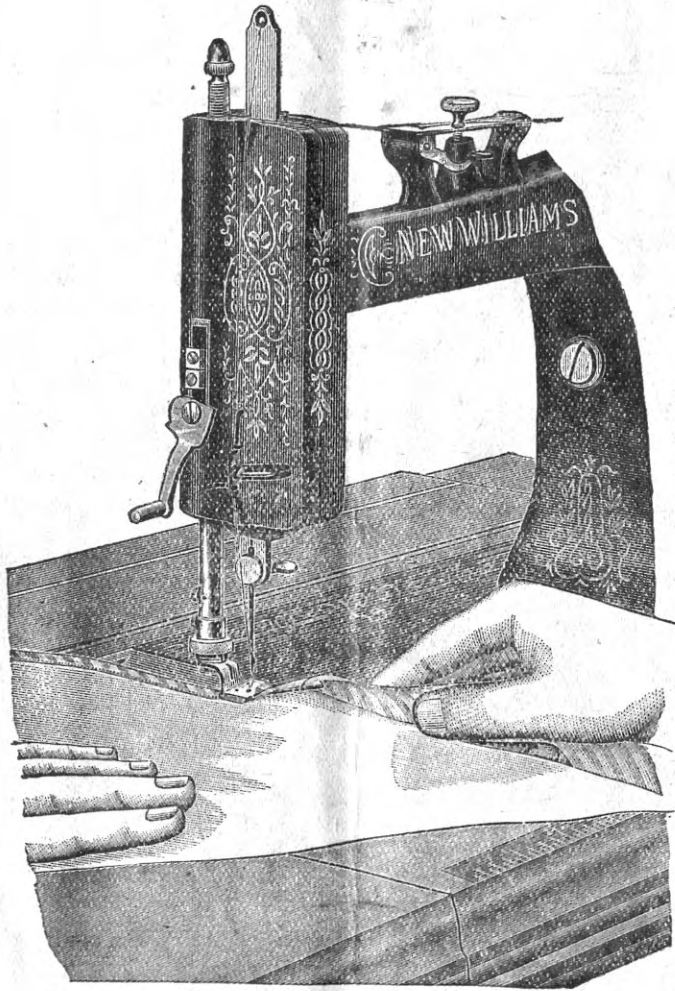
Keep the first row of stitching straight by a mark or basting thread. All succeeding rows are made straight, and at uniform distance, by keeping the row last made steadily under the guide; In squares or diamonds, the appearance of the work is better if on equal bias.



SEWING ON LACE AND HEMMING AT ONE OPERATION.

Start a narrow hem, as shown on page twelve. When the hem is well started, raise the PRESSER, turning the LIFTER from you, and also raise the NEEDLE. Then pass the end of the lace through the slot in the side of the HEMMER, and on top of the hem.

Be sure that the hem is not displaced in the HEMMER, and that the needle goes down through the lace and hem together. Then let down the PRESSER and guide the lace over the front of the HEMMER, keeping it well into the slot.



THE BINDER.

Remove the regular Presser-Foot and put the Binder in its place on the holder, clamping it firmly in place.

If cut binding is used, it should be cut on the bias and $\frac{7}{8}$ of an inch wide. Pass the binding into the scrolls and the goods to be bound between the scrolls, guiding with the left hand and let the binding pass easily through the fingers at the right.

HINTS TO THE USERS OF THE "NEW WILLIAMS"

No. 1.—Do not expect to get along entirely without trouble. Difficulties will arise of a more or less serious nature. Poor thread, defective needles, bad oil, etc., lead to these; and, remember, that you yourselves are liable to make mistakes in threading and handling the Machine. Should it fail to give satisfactory results in any particular point, refer at once to the directions for that point, and they will always help you out.

No. 2.—If upper thread breaks, the needle is not set correctly; or the Machine is not properly threaded; or the upper tension is too tight; or the needle is too small for the thread; or the eye of the needle is sharp or rough; or the point of the needle is bent or broken; or the Machine has turned *toward* you instead of from you, or the thread has slipped from under thread guide behind needle bar. (See page 4.)

No. 3.—If the under thread breaks, the bobbin has been filled too full; or the thread has been too unevenly wound; or the thread has not been properly drawn into the shuttle; or tension of the shuttle is too tight; or the tension spring *may have got bent*.

No. 4.—Needles are broken (nine times out of ten) by pulling the goods when sewing. Let the Machine do its own feeding. If the stitch is not long enough, lengthen at the proper place. Too fine a needle for the size of the thread used will also be apt to break the needles.

No. 5.—If the upper thread loops, the tension is too loose, or the take up (see page 4) is not threaded; or *the thread is tangled somewhere*. Too loose a tension on the shuttle thread, or the thread *not properly drawn into the shuttle*, will cause the *under* thread to loop.

No. 6.—If "skip stitches" are being made, the needle is not set correctly; or it has got bent; or it is too fine for the thread; or better decide that it is a *bad needle*, and set another.

No. 7.—PERFECT STITCHING.—This will result when the *upper* and *under* threads *evenly balance* each other (*tight enough to lay the threads*

smoothly yet not so tight as to pucker the cloth), the thread being locked in the centre of the goods, thus,



If the thread is *straight* on top, thus,



the *upper* tension is *too tight* or the *under* tension is *too loose*.


If the thread is *straight underneath*, thus,



the *shuttle* tension is *too tight*, or the *upper* tension is *too loose*. If both upper and under threads appear loose (not smoothly drawn into the cloth), then both tensions require tightening.

NOTE.—A short stitch will bear a *tighter* tension than a longer one; so it is well when you lengthen the stitch to *loosen* the *upper* tension a little, *especially on fine goods*.

No. 8.—The main cause of Machine running hard is *gummed oil*. Oil Machine with kerosene, *run until perfectly free*, then wipe clean and oil afresh with good oil. Too tight a belt will also cause the Machine to run heavy; whilst *too loose* a belt will slip, and cause the Machine to run irregular.

No. 9.—BAD THREAD.—Whilst nearly all the different makes of *thread* are good, and give satisfactory results, some are so bad as to be unfit for machine use, and some even of the best, from being exposed to dampness, will become spotted with mildew. Such thread, if put on the Machine, will give trouble in breaking, *as a matter of course*. See that your thread is of good quality and free from “knots.”  *Never wind a “knot” on the bobbin.*

THE PRESSER FOOT should never be let down on the FEED, unless when you are sewing and have cloth under it.

Do not run the Machine with either of the shuttle slides open.

Do not use a dull or bent needle, or draw the work faster than the feed will naturally carry it. Needles are frequently broken by failing to observe the latter caution.