

THE
HOWE
SEWING MACHINE
INSTRUCTOR.

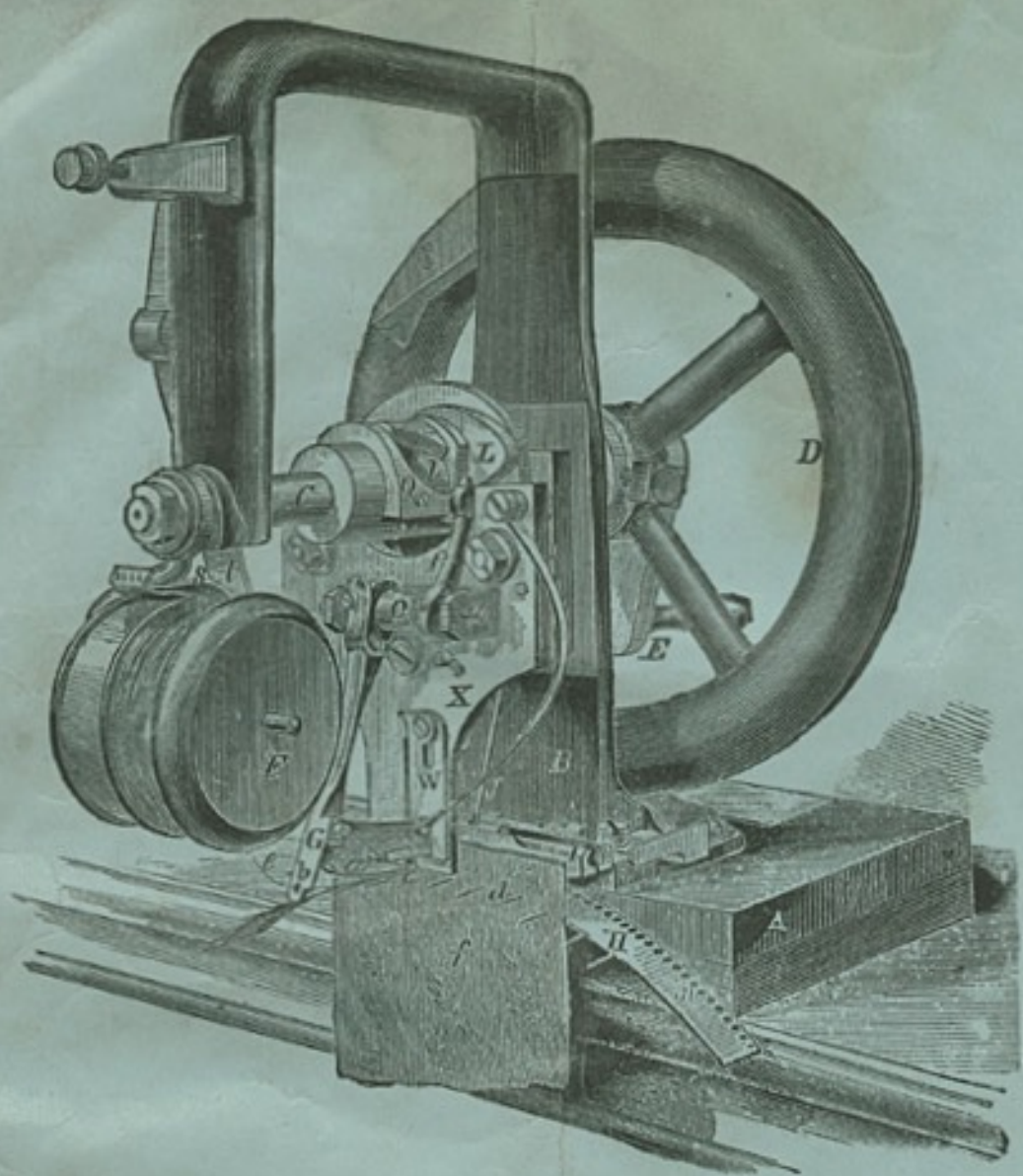


The Illustrations in this book are all new, and have been prepared expressly to instruct the public in the use of our

NEW FAMILY
SEWING MACHINE.

The Howe Machine Company,

699 Broadway, New York.



CUT OF THE

First Sewing Machine.

ELIAS HOWE, Jr., Inventor.

THIS Machine embraces all the principles of Sewing by Machinery embodied in all the Sewing Machines now in use, and in its crude form makes perfect work at the rate of 300 stitches a minute.

INSTRUCTION BOOK.

THE

Howe Machine Company,



699 BROADWAY,

NEW YORK.



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TO THE LEARNER.

A LITTLE time given to the study of the instructions, before commencing to use the machine, will be found of great advantage.

The working of the machine is explained as minutely as possible, and each operation made the subject of illustration. The cuts are arranged in the order in which the learner must proceed.

A careful examination of the illustrations alone will be sufficient to teach the most inexperienced to operate successfully.

The machines always leave our store in good order, and never fail to give satisfaction, if managed according to instructions.

Never attempt to take the machine apart, or you will be sure to get into trouble; we frequently hear ladies boast that they "have taken their Sewing Machines all to pieces, and put them together again." Nothing worse can be done; it is a mistake to suppose that the machine can be benefited by being tampered with by inexperienced persons.

Become perfectly familiar with the machine before undertaking any practical work.

Never attempt to use any of the attachments until you can manage the machine with ease on plain sewing.

If the machine miss stitches, see that the needle is properly set, and if the thread and needle are of the proper size to be used together.

If the thread break, be sure that the needle is not too high, and that the short groove is next to the shuttle, and that the machine is threaded properly, and that the tensions are not too tight, and that the eye of the needle is not sharp.

When about to sew thick, soft material, adjust the machine for a longer stitch.

Select the thread to be used with reference to the kind of material to be sewed, bearing in mind that finer numbers are used when sewing by machine than in doing the same work by hand. Always use the best soft finish cotton; we recommend Jno. Clark, Jr.'s (Thos. Russell, Agent), as the most reliable. Glazed threads should never be used for family sewing.

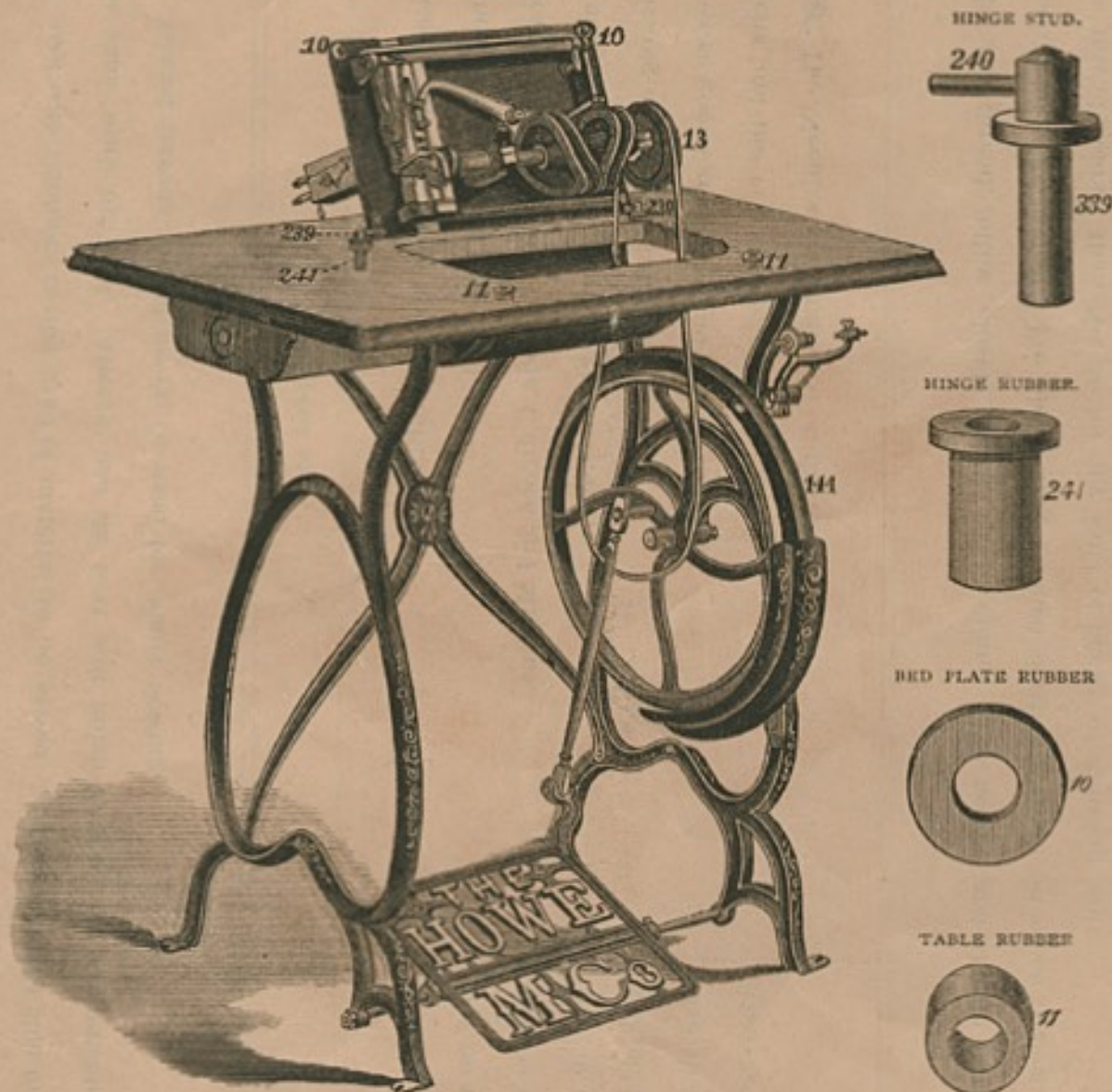
SIZE OF NEEDLES.	MATERIAL USED.	SIZE OF COTTON, LINEN AND TWIST.
000	Lace, Nainsook, Swiss and fine Silks,	use 100 to 150 cotton or 000 twist.
00	Finest Muslin, Linen and Cambric,	use 80 to 100 cotton or 00 twist.
0	Heavy Silk, light Woolen goods, Calicoes and Muslins,	use 60 to 80 cotton or 0 twist.
1	Unbleached Muslin, Cotton Flannels, &c.,	use 40 to 60 cotton or A & B twist.
2	Ticking and light tailoring,	use 20 to 40 cotton or B & C twist.
3	Coarse goods generally, and heavy clothing,	use 16 to 20 cotton or C & D twist.
4 or 5	Felts and the very coarsest cloth,	coarse cotton, linen or twist.
	The Needles are numbered on the shanks.	

In selecting the needle and thread, follow closely the above directions. The needle and shuttle thread should be of the *same* size. Be careful to have the points of the needles perfect. For sharpening blunted needles a small oil stone is best.

NOTE.—Never use linen thread coarser than No. 80 for any kind of family or tailoring work.

TO PLACE THE MACHINE ON THE TABLE.

Fig. 1.



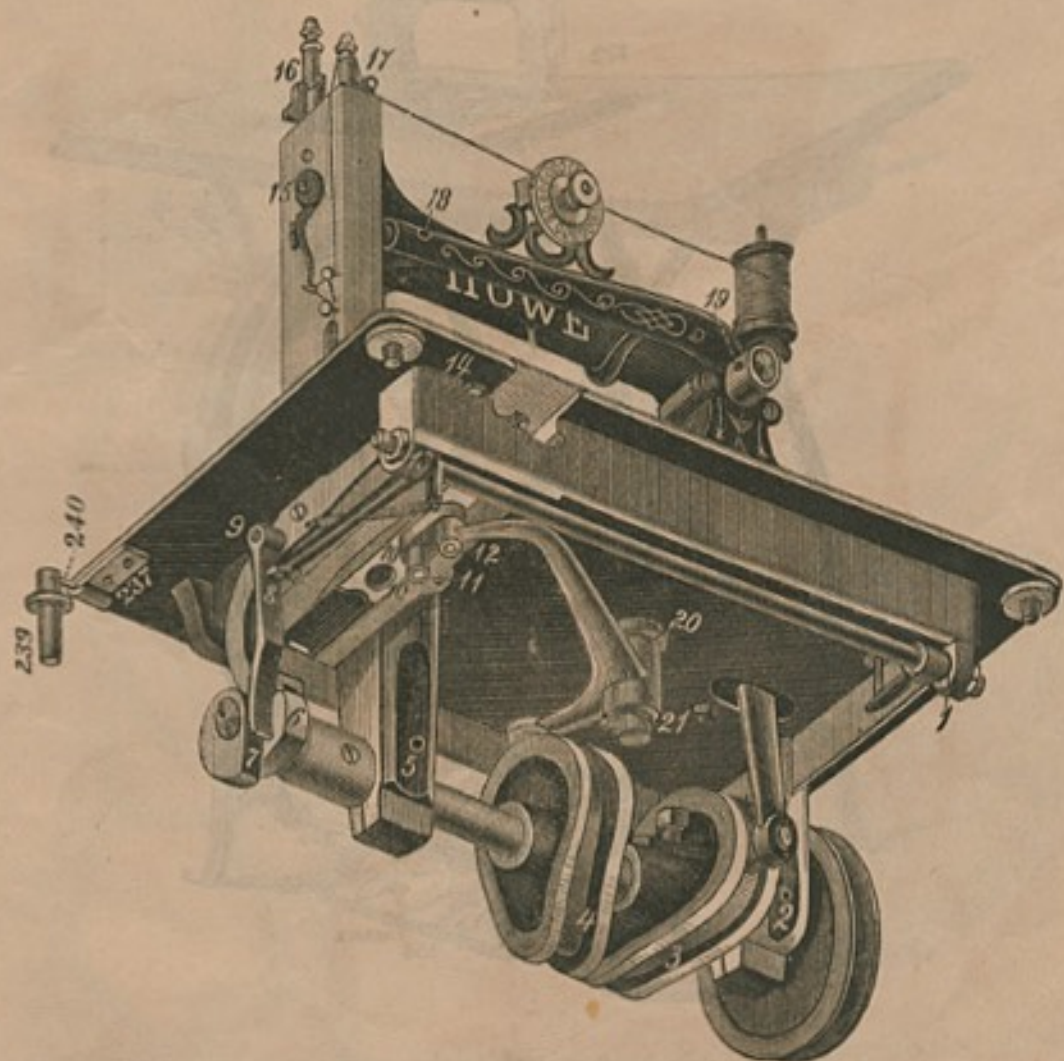
Enter the hinge rubbers No. 241 into holes in back part of table at 241. Enter table rubbers No. 11 into holes No. 11 in front part of table.

Place *Bed Plate Rubbers* No. 10 on the pins No. 10 on the front corners of the machine. Attach hinges No. 239 (see Fig. 2, page 7), to the machine, and enter them into the rubbers No. 241 in the table; turn the machine down, as shown in Fig. 3, page 8; pass the belt around the groove of the driving-wheel No. 144 and pulley No. 13, sufficiently tight to drive the machine.

The belt should be thrown off when the machine is not in use, and if it becomes too loose to drive the needle through heavy goods, shorten it by cutting about half an inch off one end where it is joined together, punch a new hole, and fasten as before.

OILING THE MACHINE.

Fig. 2.

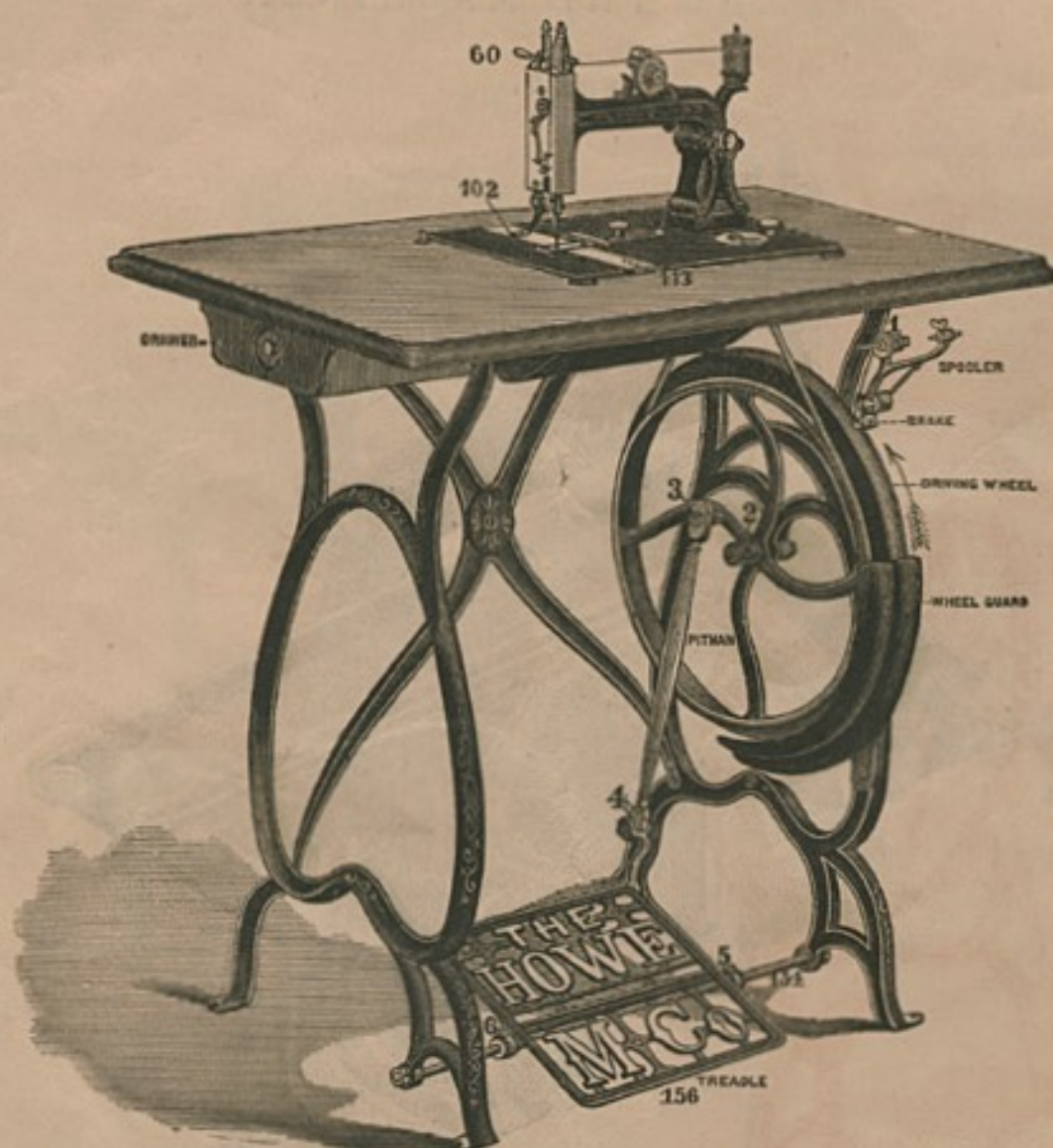


Slip the belt off driving-wheel No. 144, turn the machine back on its hinges, as shown in Fig. 1, page 6, oil all the bearings indicated by the numbers, beginning with No. 1, taking the figures in their regular order, 1, 2, 3, 4, and so on to 21. In this way you will be sure to find every place requiring oil, and avoid oiling the same place more than once. To oil the stand, commence at No. 1, Fig. 3, page 8, taking the numbers in their regular order to No. 6. Care should always be taken, before commencing to operate, that the running parts are well cleaned and oiled. No part can be permitted to run dry without detriment to the machine.

NOTE.—Use good oil—pure sperm is the best. Poor oil will gum, and cause the machine to run heavily. Spirits of turpentine or kerosene oil will be found useful in cleaning the machine after using bad oil.

TO WORK THE TREADLE.

Fig. 3.



Take the belt off; place the chair *near enough* to the machine to keep the body erect while operating. Place the feet on the treadle with the instep directly over the treadle-rod No. 154. Start the driving-wheel No. 144 from you in the direction of the arrow, and keep turning by gently pressing on the treadle with the heel and toe alternately, until you have full control of the treadle motion.

To work the machine, remove the front slide 113, and take out the shuttle; raise the presser foot No. 102, by turning the handle 60 from you, put on the belt, start the driving-wheel as before, and work the machine until you have become familiar with the motion. Without having the shuttle in or the machine threaded, place a piece of material under the needle; let the presser foot down by moving handle 60 toward you, and run the machine in this way until you become accustomed to guiding the work. Never run the machine with the presser foot down on the feed without having goods between them, and do not attempt to sew until you can turn the machine regularly, and start and stop it with ease. After becoming familiar with the motion, and before proceeding to sew, clean both machine and stand, and wipe all waste oil from the lower end of the needle bar, and out of the shuttle race.

TO WIND THE BOBBIN

Fig. 4.

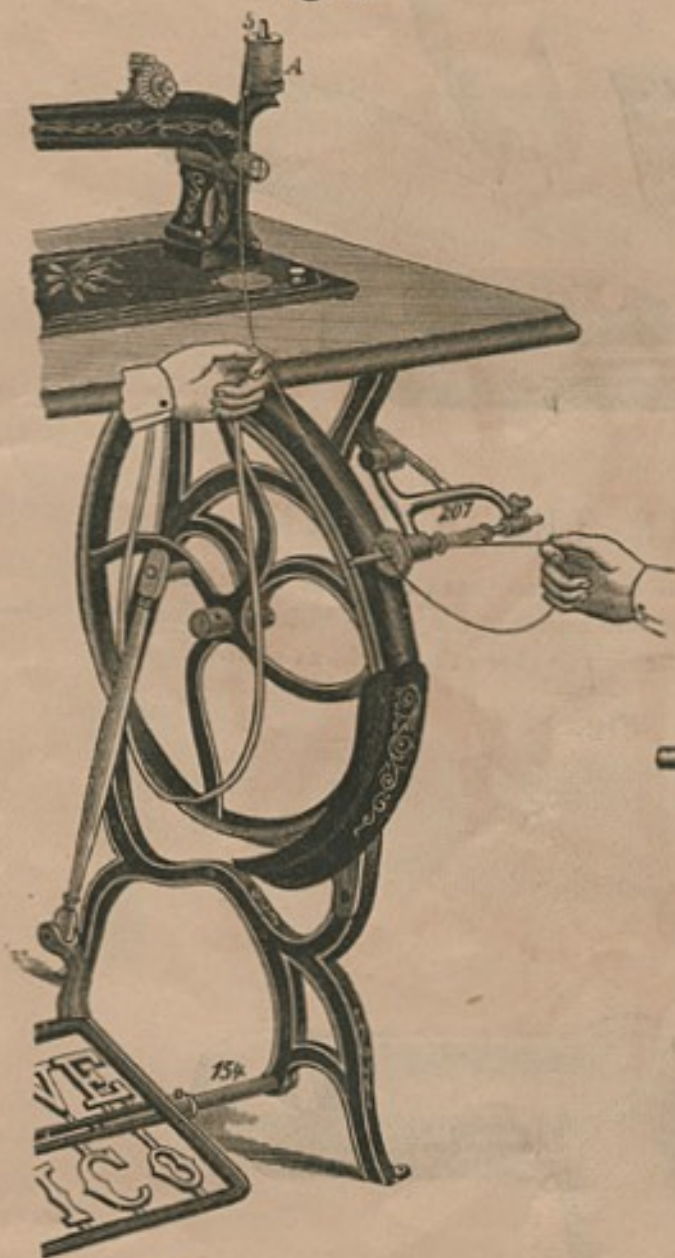
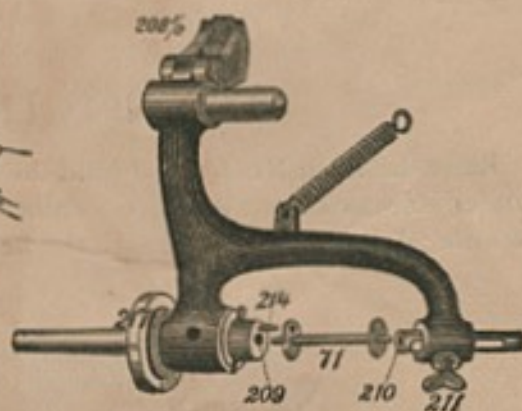


Fig. 5.



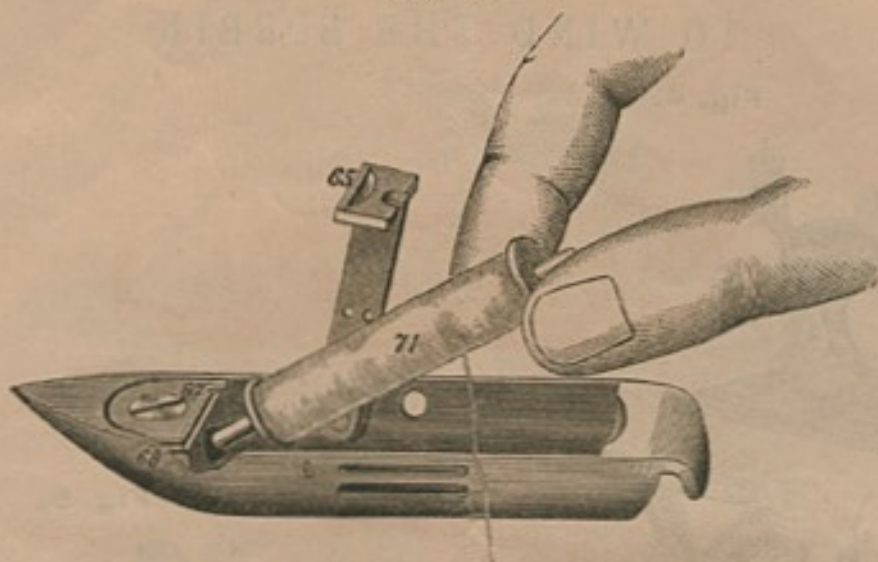
With the belt off, as shown above, drop the spooler on the driving-wheel No. 144; place the spool of cotton "A" on the spool-pin No. 5, Fig. 4, shown above; enter either end of the bobbin No. 71 into the hole in the end of the spooler spindle, as indicated by the dotted line at No. 209, Fig. 5, shown above, so that the driving-pin No. 214 will enter the small hole in the bobbin flange, then move up the spooler step so that the other end of the bobbin will enter the hole indicated by the dotted line at No. 210; then fasten the spooler step with the thumb screw No. 211.

With the right hand start the driving-wheel from you, and guide the cotton from the spool "A" evenly until the bobbin is full, then remove it, and raise the spooler to its former position, as shown in Fig. 3, page 8.

NOTE.—Never use glazed threads in the shuttle

THREADING THE SHUTTLE.

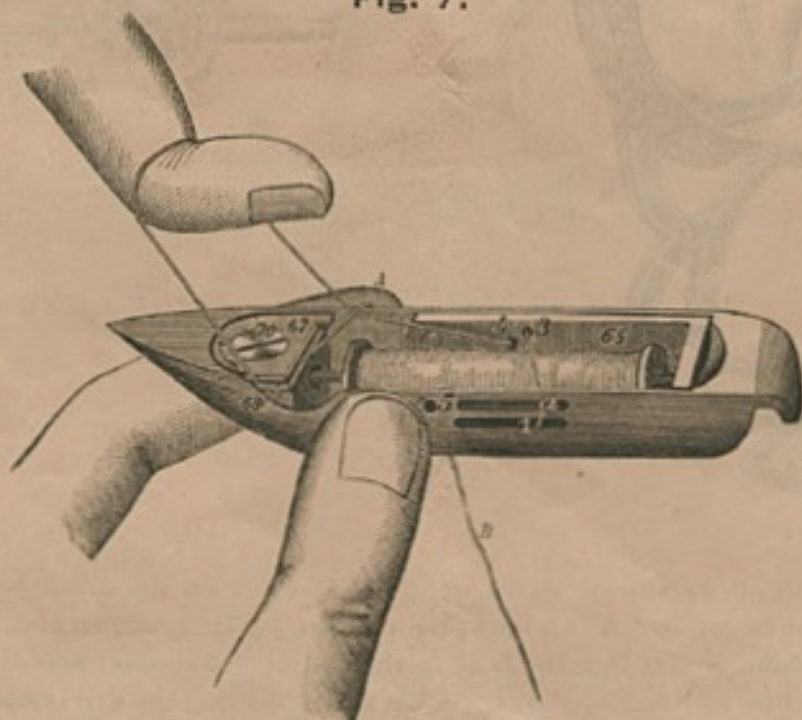
Fig. 6.



TO PUT IN THE BOBBIN.

Raise the latch No. 65, and hold the bobbin so that the thread will draw off from the under side, as shown in Fig. 6; enter one end into the small hole near the point of the shuttle; drop the other end into the heel, and close the latch, as shown in Fig. 7.

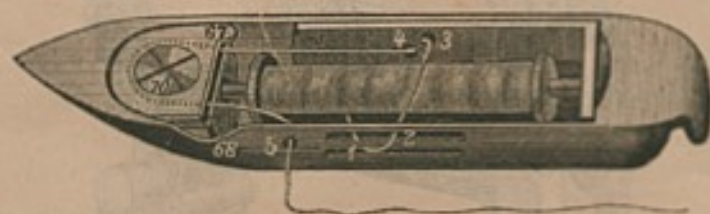
Fig. 7.



TO THREAD THE SHUTTLE.

Pass the end of the thread "B" out through the bottom slot at No. 1, and back through the top slot at No. 2, thence through the top hole in the latch at No. 3, and back through the bottom hole in the latch at No. 4; hold the end of the thread "B" between the side of the shuttle and the finger at "A"; pass the loop thus formed between the tension plates at 68, and draw it around the tension screw No. 70, in the direction of the arrow, coming out between the plates at 67; draw up the slack, and pass the end of the thread "B" out through the hole in the side of the shuttle at No. 5. Be sure to have the thread *between* the tension plates 67 and 68, and not under them.

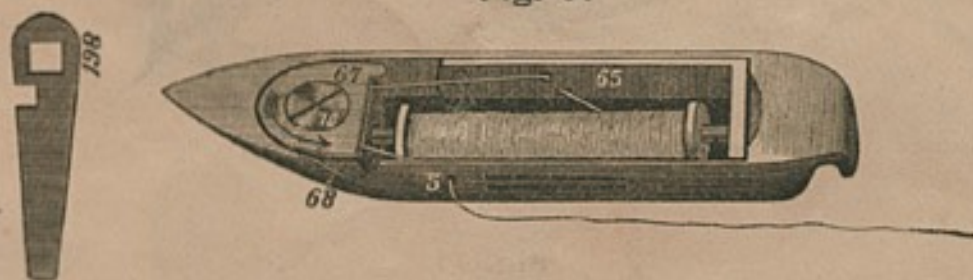
Fig. 8.



This shows the shuttle fully threaded, and so plain that if the learner will but follow the line of the thread with the eye it will be impossible to make a mistake.

Except where a very delicate tension is required, omit threading through the slots at No. 1 and No. 2, as in Figs. 7 and 8, and thread as shown in Fig. 9.

Fig. 9.



Have the thread leading from the under side of the bobbin, and out through the lower hole in the latch 65, and back through the top hole, thence between the tension plates and out through the side of the shuttle at 5, as shown in the cut.

TO REGULATE THE SHUTTLE TENSION.

The tension screw No. 70 is a left hand screw, and operates the reverse of ordinary screws. With that the tension can be increased or lessened at pleasure. To *increase* the tension, turn the screw to the left, as indicated by the arrow on tension plate 67, by means of the shuttle screw-driver No. 198, shown above.

To decrease the tension, turn the screw in the opposite direction.

TO THREAD THE MACHINE.

Fig. 10.

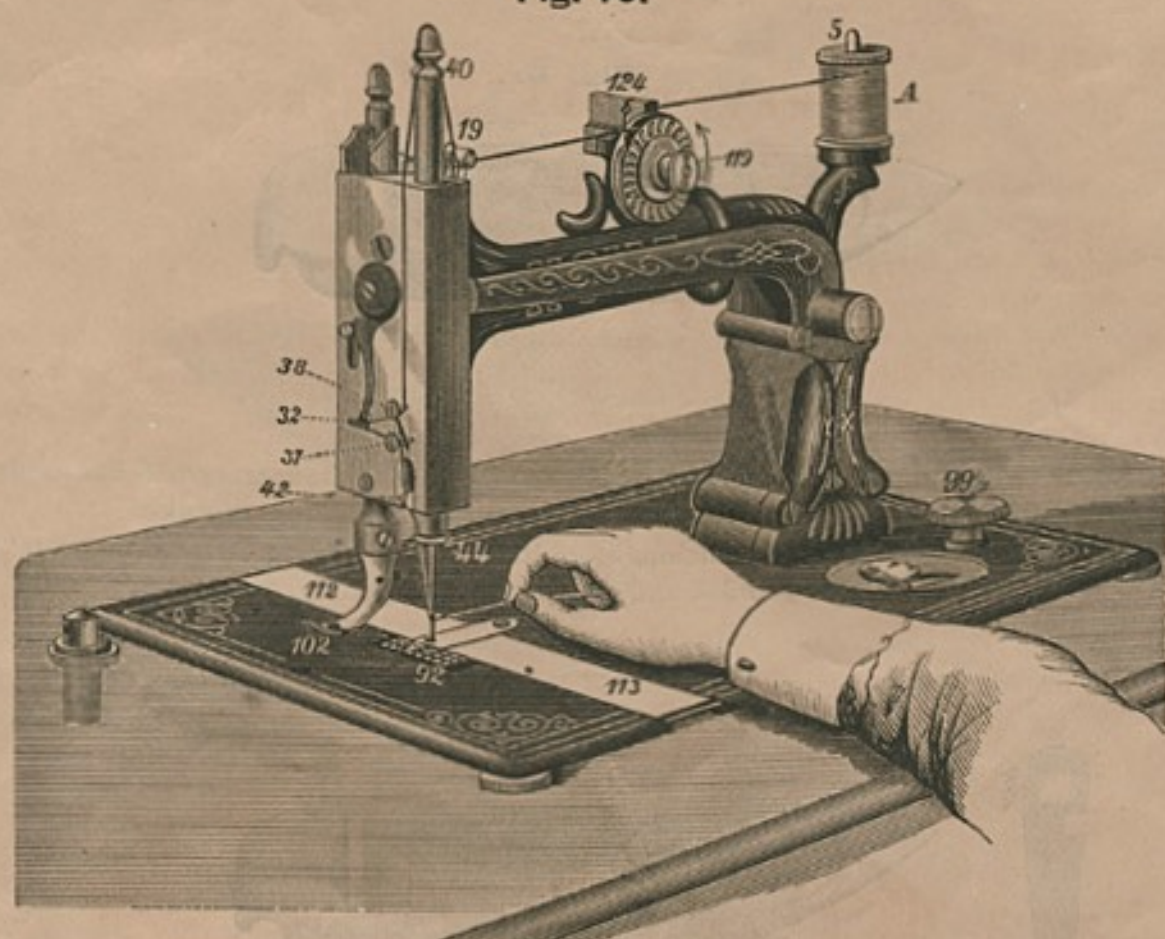
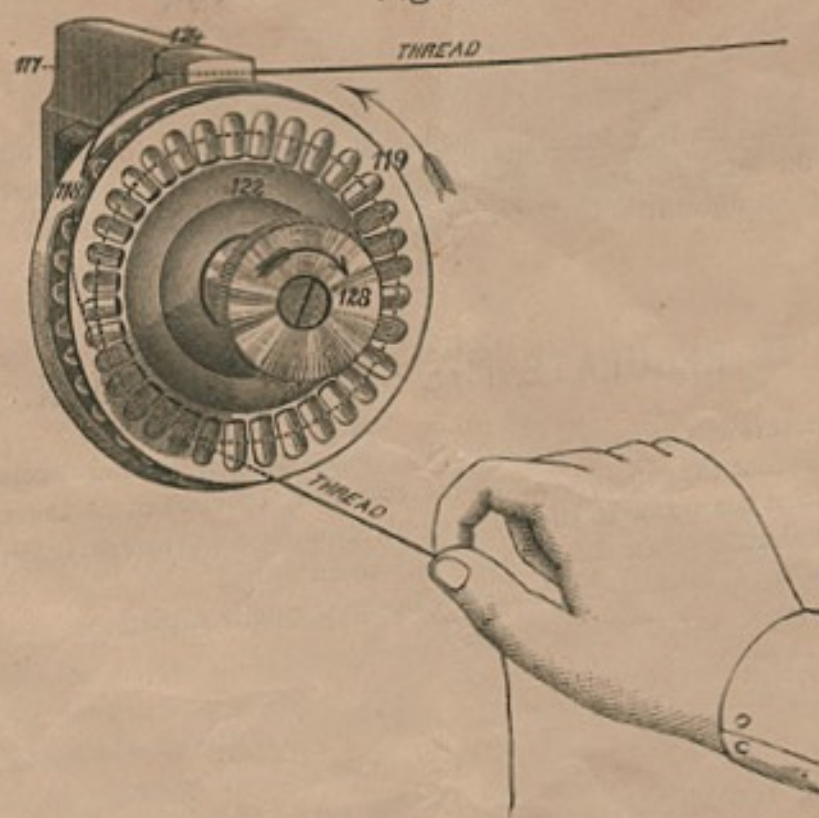


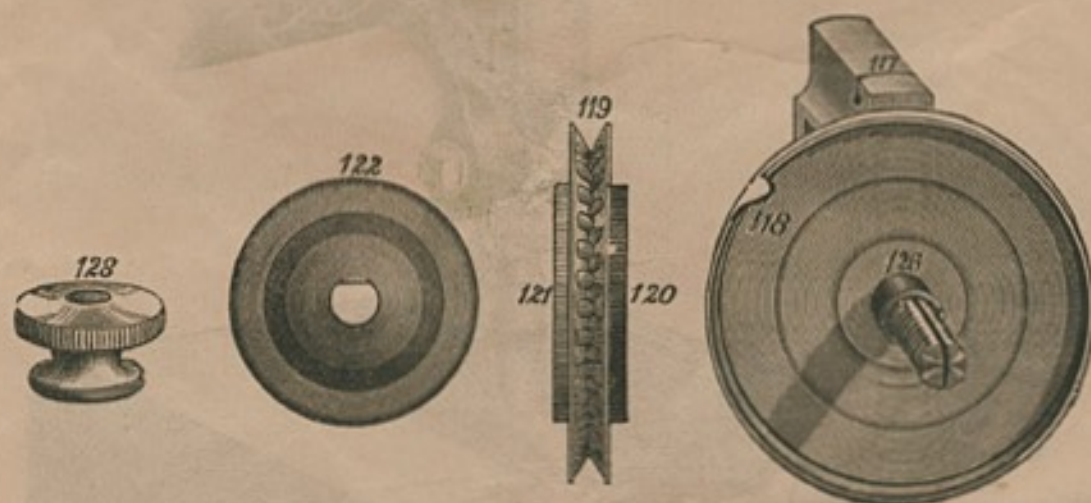
Fig. 11.



TO THREAD THE MACHINE.

Use 60 cotton and a No. 1 needle in learning. Place the spool of cotton "A" on the spool-pin at No. 5, draw the thread into the slot at No. 124 in the top of the tension stand; thence into the V shaped groove of the tension wheel at point 118 (see Fig. 11, page 12), and twice around the wheel in the direction indicated by the arrow; thence through the thread controller No. 19, and into the slot on the top of the needle bar No. 40, and downwards under thread guide-pin No. 38; thence through the hook on the end of the take-up No. 32, and back over thread guide-pin No. 37; thence through the curved hook No. 44 at the bottom of the needle bar, and lastly through the eye of the needle, as shown in Fig. 10, page 12.

Fig. 12



TO OIL THE TENSION.

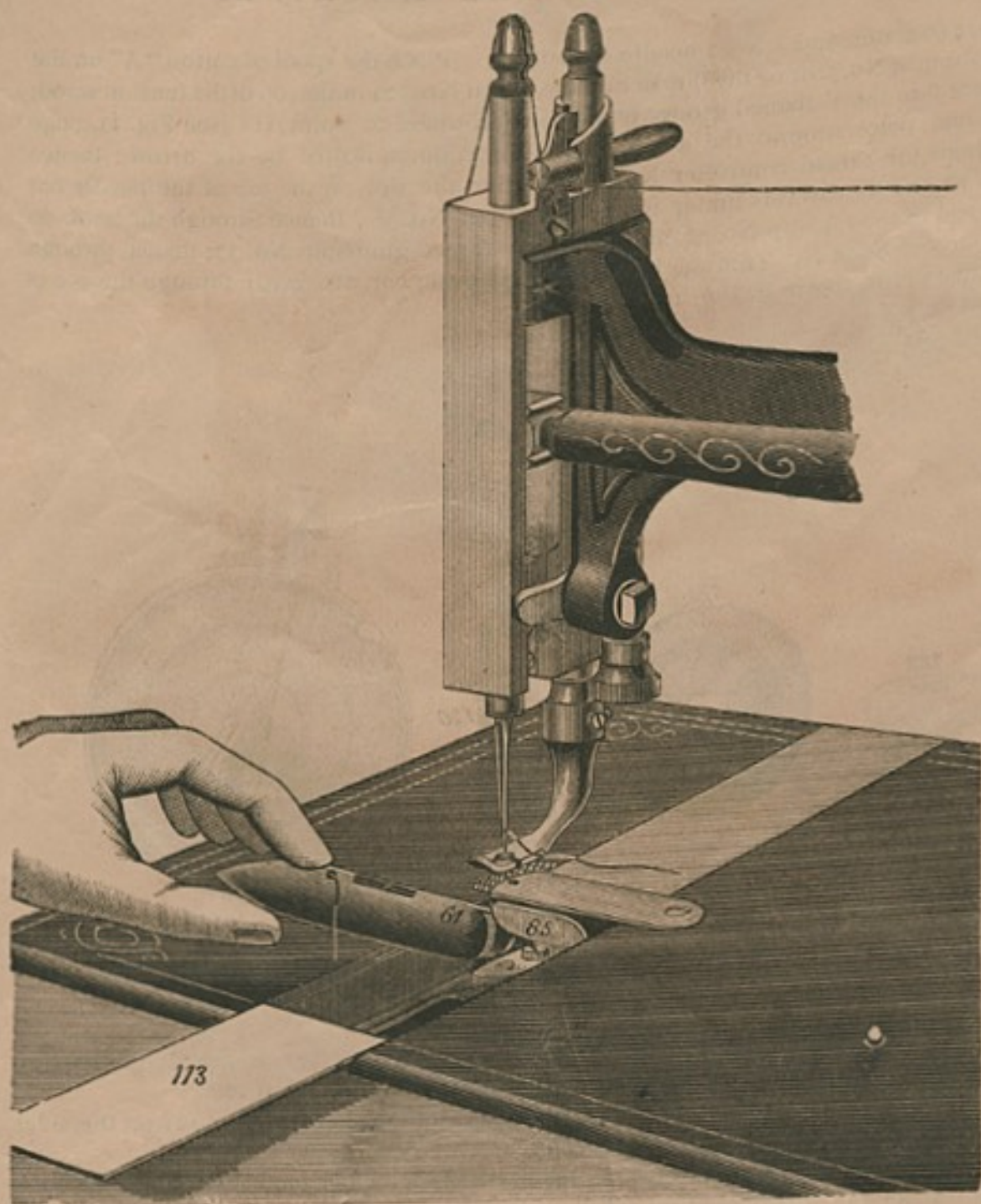
Take off the thumb nut 123, then the tension nut washer 122, and lastly the tension wheel 119, and put half a drop of oil on the screw stud directly at 126.

Great care must be taken to get no oil on the cloth washers 120 and 121 on the sides of the tension wheel.

In replacing the wheel, always put the black cloth washer 120 back. To replace the nut washer 122, it will be observed that one side of the hole is flat, which must be put on to fit the flat side of the screw stud 126, then put on the thumb nut 123. Once a month is often enough to oil the tension.

TO PLACE THE SHUTTLE IN THE MACHINE.

Fig. 13

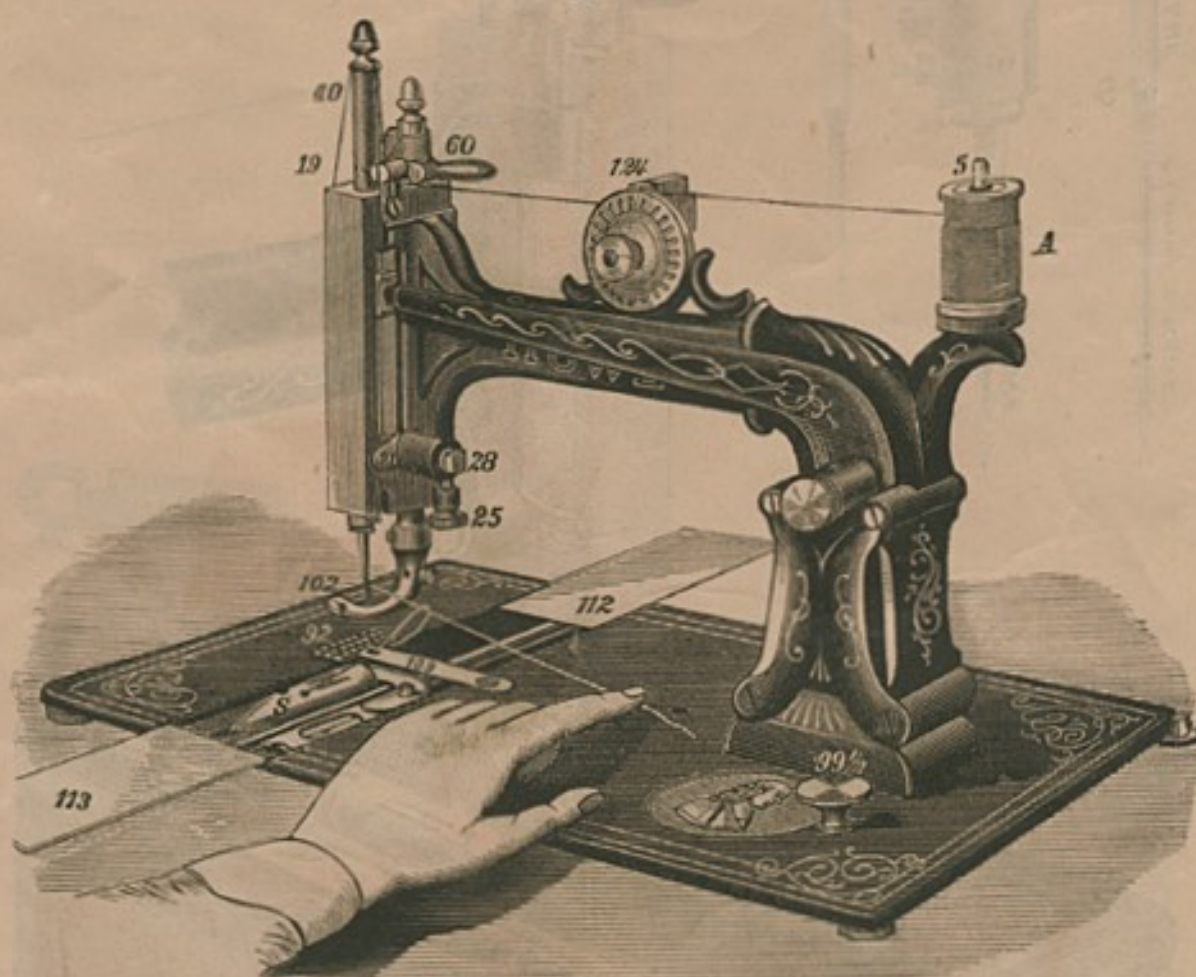


Raise the needle bar to its highest point, withdraw the front slide 113, take hold of the shuttle and slide the heel along on the bottom of the race, holding the point high enough to allow the hook on the heel to pass under the end of the driver No. 85; then let it drop into its place, as shown in Fig. 16, page 16.

NOTE.—Draw the thread through the eye of the needle and through the hole in the side of the shuttle, so as to leave the ends about three inches long.

TO DRAW UP THE LOWER THREAD.

Fig. 14.



Withdraw front slide 113; hold the end of upper thread *slack* with the left hand; turn the driving-wheel with right hand until the needle passes down.

If the needle is set properly a loop will be formed by the upper thread in the shuttle race (see Fig. 16, page 16), through which the shuttle will pass, and the needle, in its ascent, will draw the lower or shuttle thread up through the hole in the throat plate No. 100.

TO REGULATE THE LENGTH OF THE STITCH.

Near the right hand end of the bed plate of the machine will be found the stitch thumb screw No. 99½, as shown above. To lengthen the stitch, turn the thumb screw



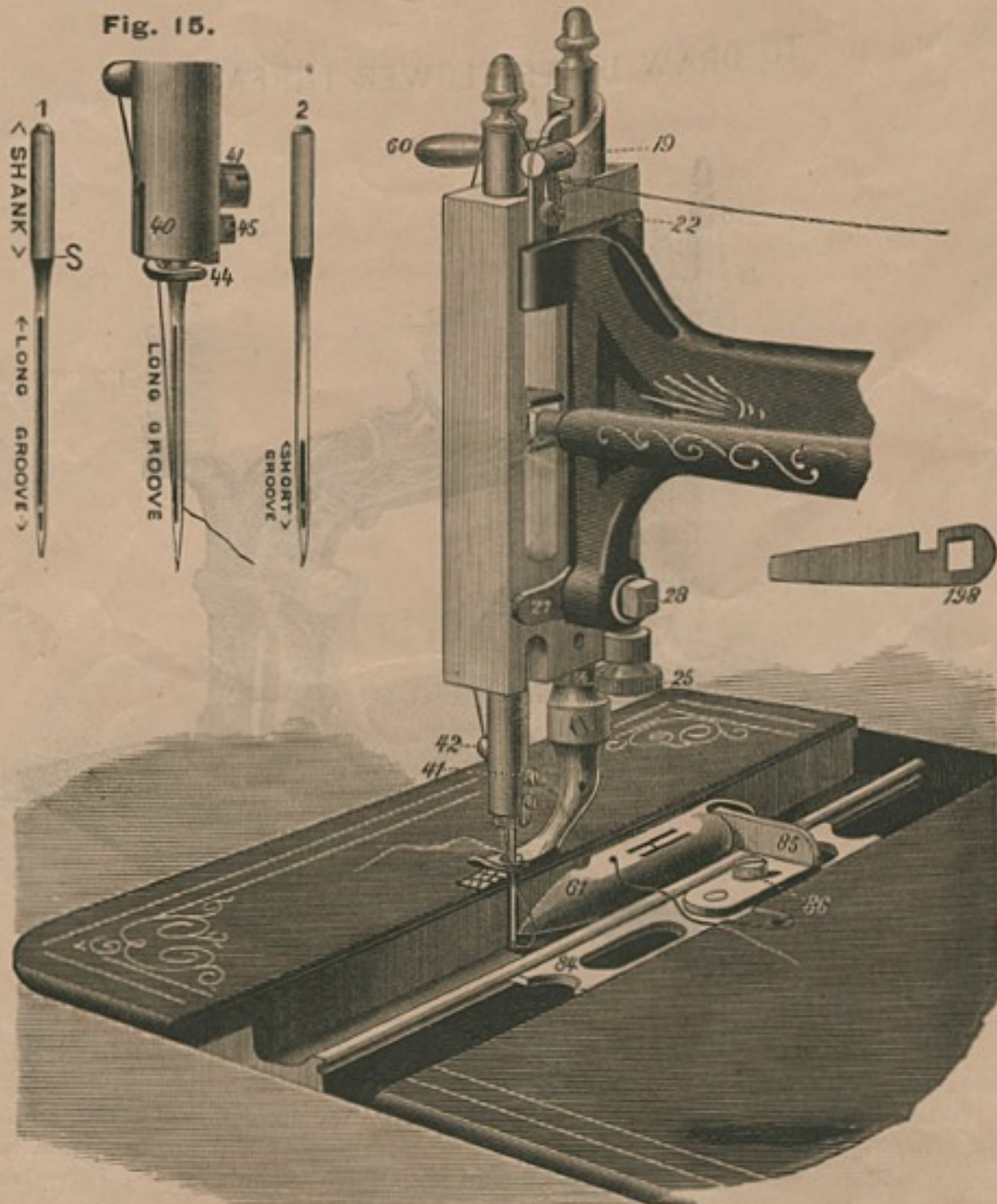
to the right, thus, . To shorten the stitch, turn to the left, thus, .

Fig. 16.



TO REMOVE THE NEEDLE.

Raise the needle bar to its highest point, lift the presser foot and turn it back out of the way, loosen the screw No. 41, and remove the needle.

TO SET THE NEEDLE.

Hold the needle between the thumb and the index finger of the left hand, and pass the point down through the needle hole in the throat plate; then enter the shank of the needle in the hole in the lower end of the needle bar, and push the needle up until the

lower part of the shank at S (Fig. 15, page 16) is even with the lower end of the needle bar, and fasten it in its place with the screw No. 41.

Be very careful to have the short groove of the needle next to the shuttle; remove both slides Nos. 112 and 113 (see Fig. 14, page 15); thread the needle from left to right, so that the thread will run across the centre of the throat plate, as shown in Figs. 10 and 14, pages 12 and 15; turn the driving-wheel from you until the needle descends to its lowest point.

By continuing this movement the needle will raise about one-eighth of an inch, at the same time throwing out a loop of thread squarely into the shuttle race, through which the shuttle will pass.

If your needle is set right, the bottom of this loop and the eye of the needle will be even with the bottom of the shuttle race, as shown in Fig. 16, page 16. For fine thread, the needle may be set a trifle higher, until the point of the shuttle enters the largest part of the loop.

MISSING STITCHES.

If the needle is improperly set it may throw the loop to one side, so that the shuttle will pass by instead of through the loop. To prevent this, turn the needle in the opposite direction until it throws the loop squarely into the shuttle race. Sometimes the machine will miss stitches because the needle sets too far from the shuttle, and at other times the shuttle will strike the needle because the needle sets into the shuttle race.

To adjust the needle nearer to or further from the shuttle, place the wrench 198 (Fig. 16, page 16) on the head of the screw No. 28, and press it downwards; this will loosen the screw, so that the head of the machine can be moved.

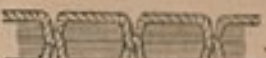
To adjust the needle nearer to the shuttle, move the end of the adjusting cam (27) up, and then turn the screw (28) back into its place.


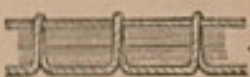
To adjust the needle farther from the shuttle, move the adjusting cam (27) downwards and tighten the screw, as before. The needle should set as near the shuttle as possible without striking it.



NOTE.—The adjustment referred to above is only necessary in changing from fine to coarse needles.



TO REGULATE THE TENSIONS.

Before commencing to sew, always be careful to have some tension upon each thread. Try them with the hand to see that they pull as nearly alike as possible.

If the threads are of the proper size, having the right and equal amount of tension upon them, they will be drawn and locked together in the centre of the material, thus, . If the shuttle tension is tight and the upper tension too

loose, the under thread will lie straight, thus, . On the contrary, if the upper tension is tight and the lower tension too loose, the upper thread will lie straight, thus, . Therefore, in order to make a perfect stitch on both sides of the material, it is necessary to have the tensions as nearly equal as possible, and tight enough *only* to make a firm seam without breaking the threads.

To tighten the tension on the upper thread, turn the tension thumb nut 128 to the right, thus, . To loosen it, turn to the left, thus, .

To tighten the lower or shuttle tension, turn the small screw No. 70, near the point of the shuttle, to the left, thus, . To loosen, turn it to the right, thus, .

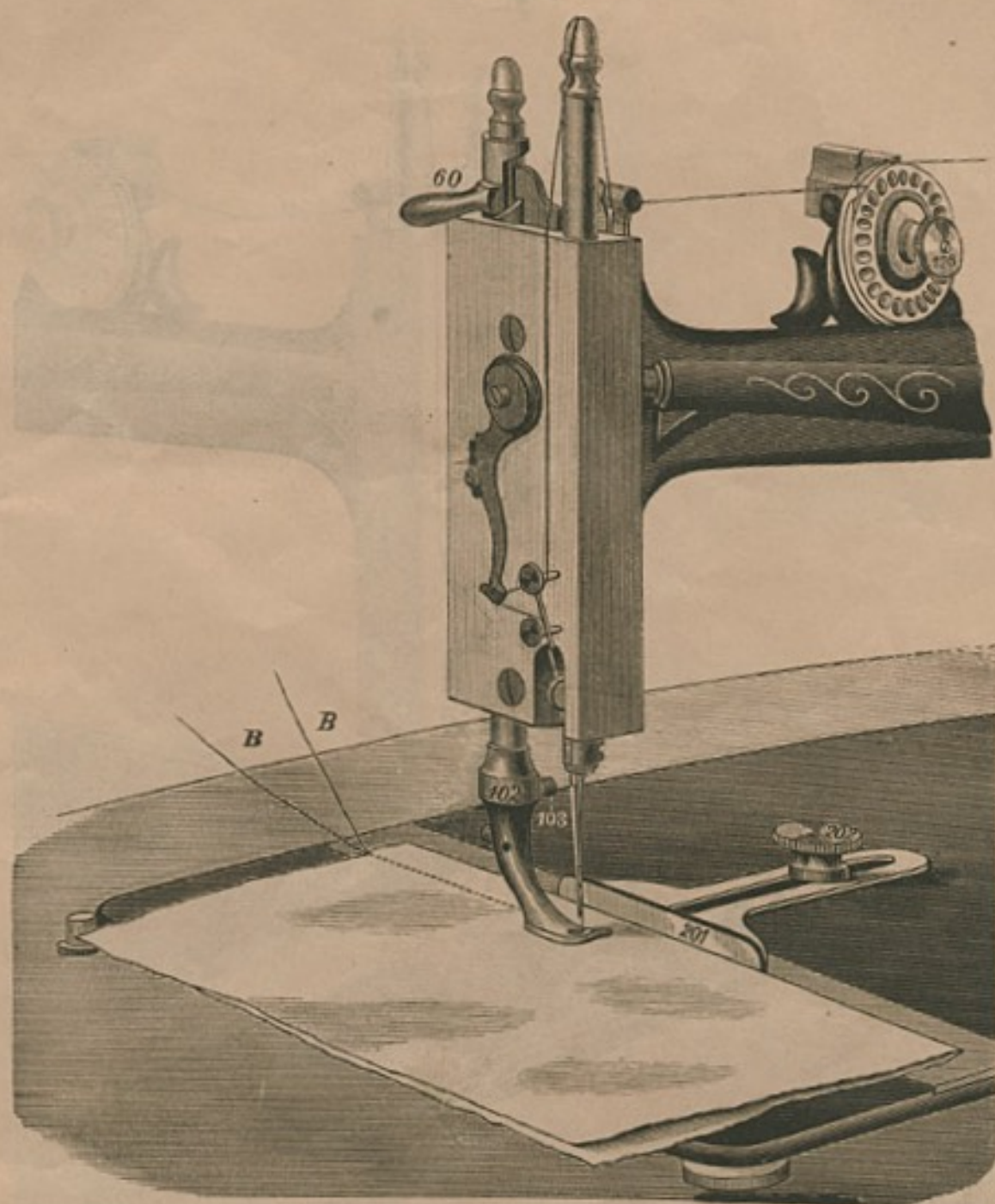
In changing the shuttle tension, which is seldom necessary, turn the screw but very little.

NOTE.—Remember the shuttle tension screw No. 70 is a left hand screw, and operates the reverse of ordinary screws.

NOTE.—In sewing heavy garments, they must be held so as not to pull back on the feed, or the stitches will be irregular.

When the machine is in operation, do not pull upon the goods so as to bend or break the needle.

Fig. 17.



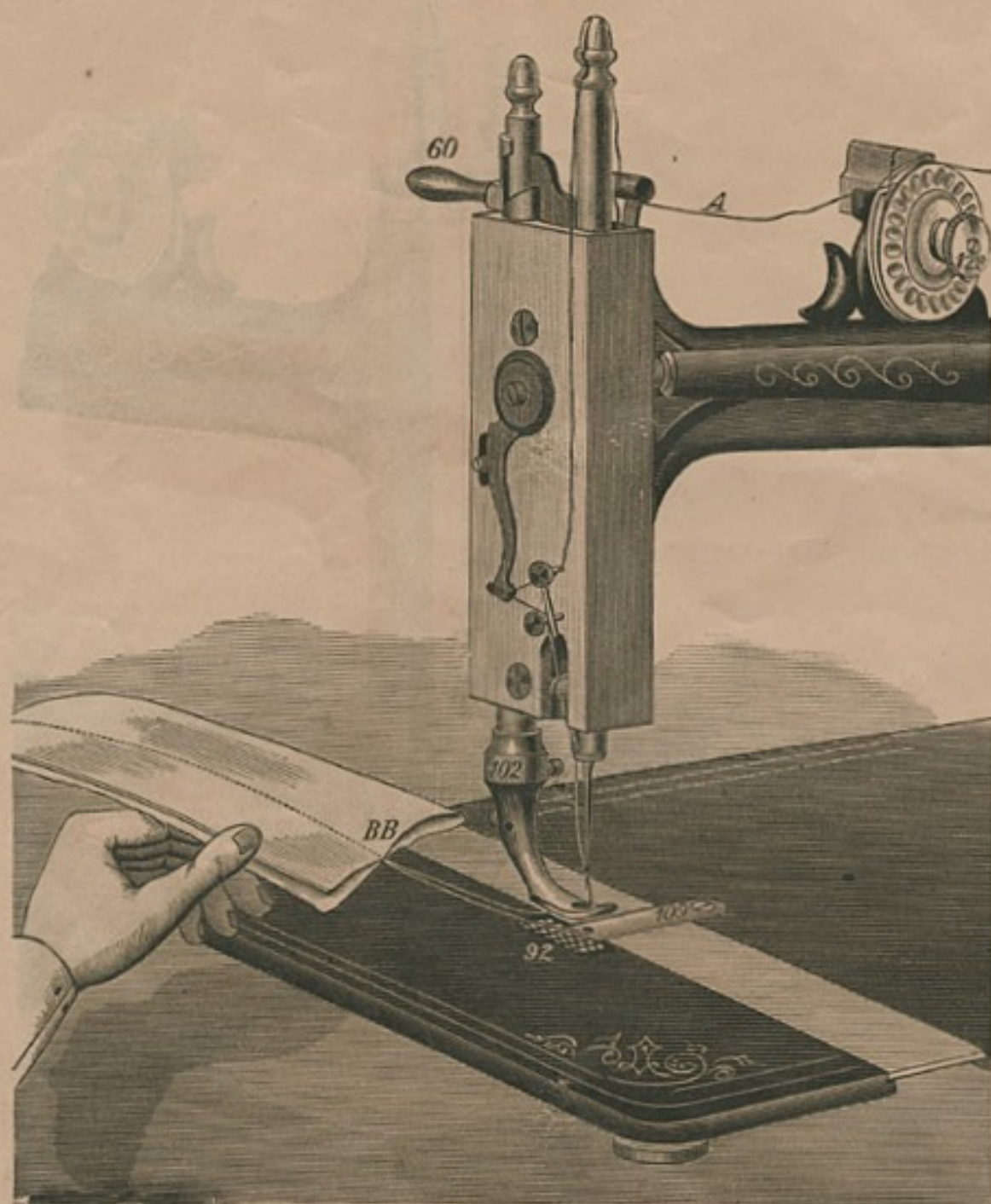
COMMENCING TO SEW.

The machine being fully threaded, both above and below, the shuttle thread drawn up through the throat plate 109, the needle bar and presser foot both at their highest point, slacken the thread, as shown at A, Fig. 18, page 20, and draw it through the eye of the needle, so as to leave an end about two or three inches long. Draw the shuttle thread up through the throat plate about the same distance, pass the two ends B B under the presser foot towards the back part of the machine, as shown in Fig. 18.

Attach the gauge No. 201 to the bed plate of the machine by means of the screw No. 202. Place the two pieces of goods together with their edges even, and pass them under the needle far enough to the right to make a seam of the proper width.

Let down the presser foot upon the work, move up the gauge to the edge of the goods, and fasten it there with thumb screw No. 202; start the machine, holding the ends of the threads down until two or three stitches have been taken; then remove the hand from the threads and proceed with the sewing, the goods being kept even with their edges against the gauge. If the tensions are right, the stitch will be alike on both sides of the material.

Fig. 18.



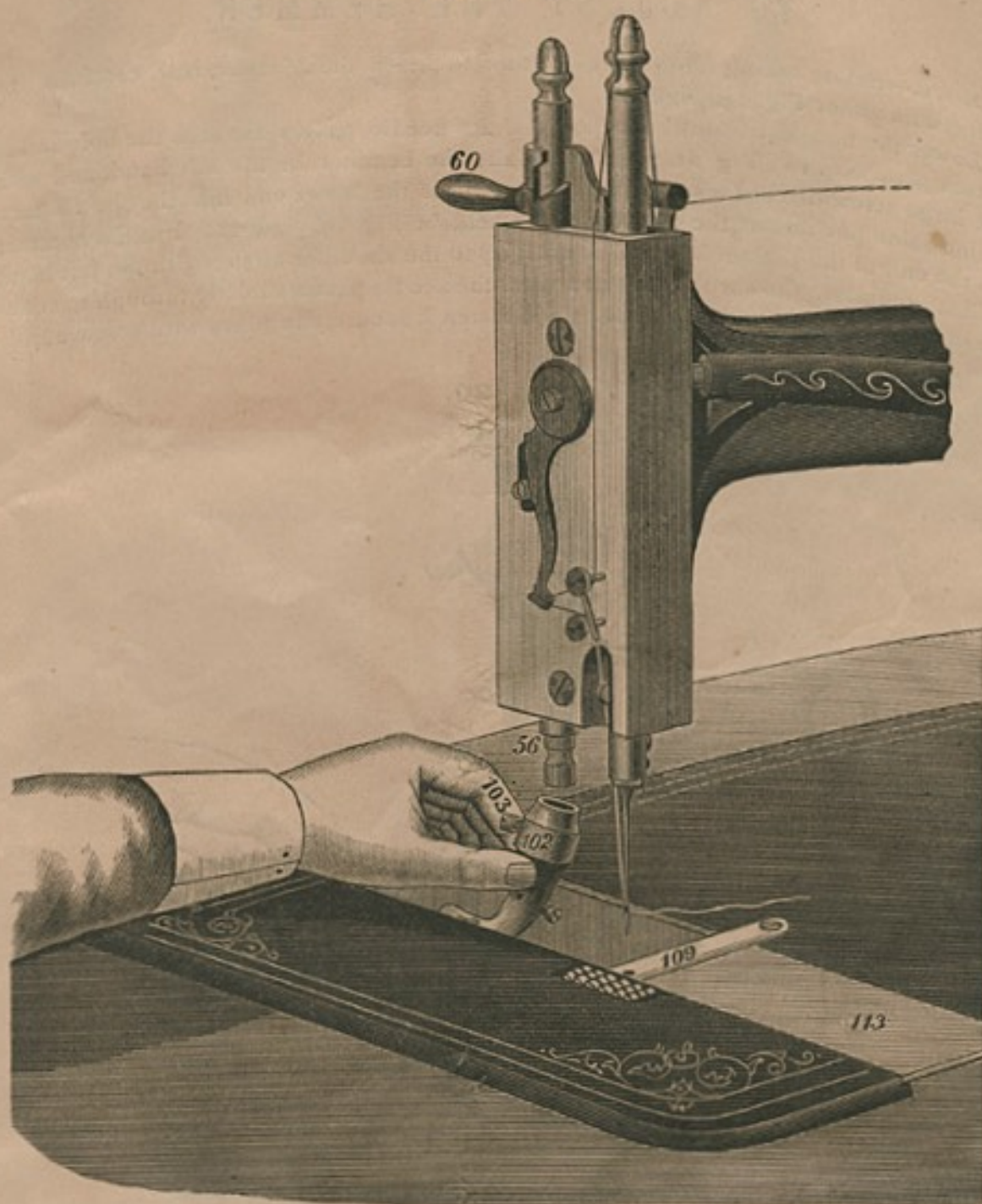
TO REMOVE THE WORK FROM THE MACHINE.

On reaching the end of the seam, stop the machine, with the needle at its highest point.

Take hold of the thread at A and slacken it, by drawing about two inches off from the spool, raise the presser foot, take hold of the work, raise it up and draw it gently out from you towards the back part of the machine, keeping the upper thread in the notch in the presser foot to avoid bending the needle, as shown above. Cut the threads about two inches from the needle.

NOTE.—If the shuttle thread should break in taking the work out, it will be an indication that the shuttle tension is *too tight*, and should be loosened a little.

Fig. 19.



TO TAKE OFF THE PRESSER FOOT.

Remove the back shuttle race cover No. 112; turn the handle of the lifter No. 60 back until it points straight from you, as shown above. Loosen screw No. 103, turn the presser foot back, and take it off directly into the shuttle race.

To put the foot on, hold it in the same position as shown above.

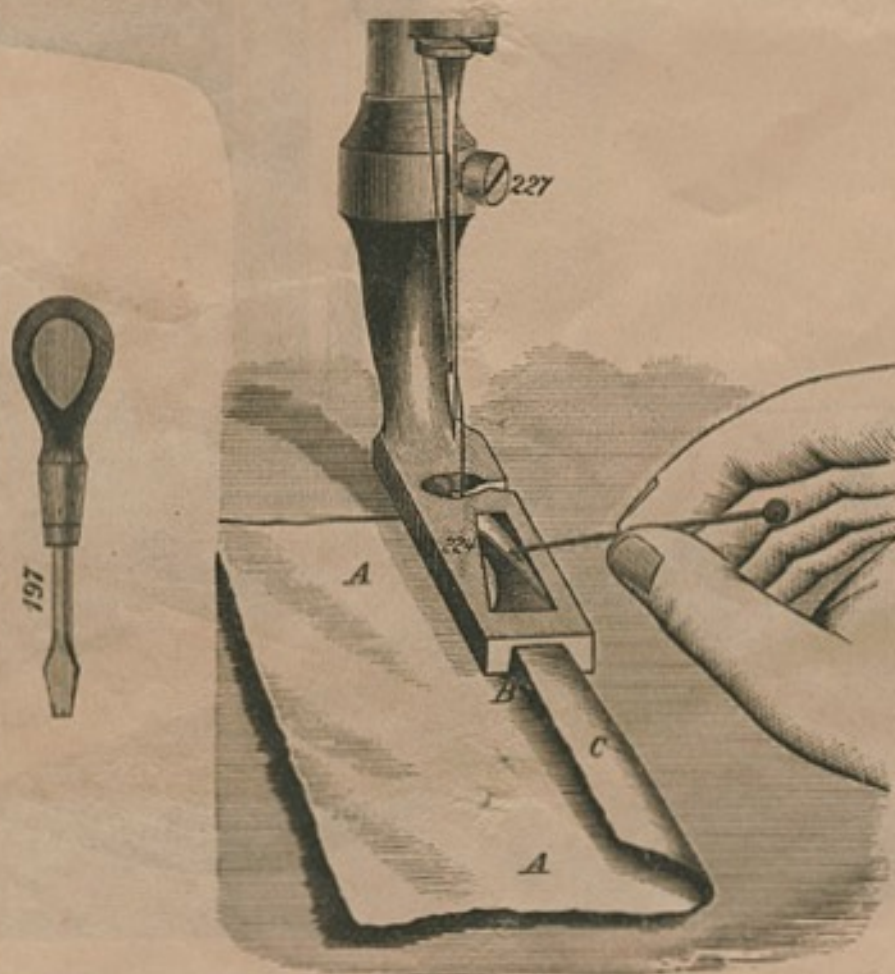
NOTE.—The above rule must be *strictly observed* in both taking off and putting on the *Hemmer, Braider and Corder*. The object in lowering them into the shuttle race is to avoid scratching the japan and defacing the bed of the machine.

TO ADJUST THE HEMMER.

NOTE.—Before taking off the presser foot to attach the *Hemmer*, read carefully the directions under Fig. 19, page 21.

Lower the needle bar until the point of the needle passes through the hole in the throat plate No. 109, Fig. 21, page 23. Take the hemmer in the left hand, and with the large screw-driver loosen screw No. 227, pass the lower end into the shuttle race in the same position as the presser foot is held in Fig. 19, page 21. Put the hemmer on the end of the presser bar and work it up to the shoulder at 56; with the left hand pull it around on the bar towards you until the needle passes directly through the centre of the needle hole in the *Hemmer*, and fasten it securely in place with screw 227.

Fig. 20.

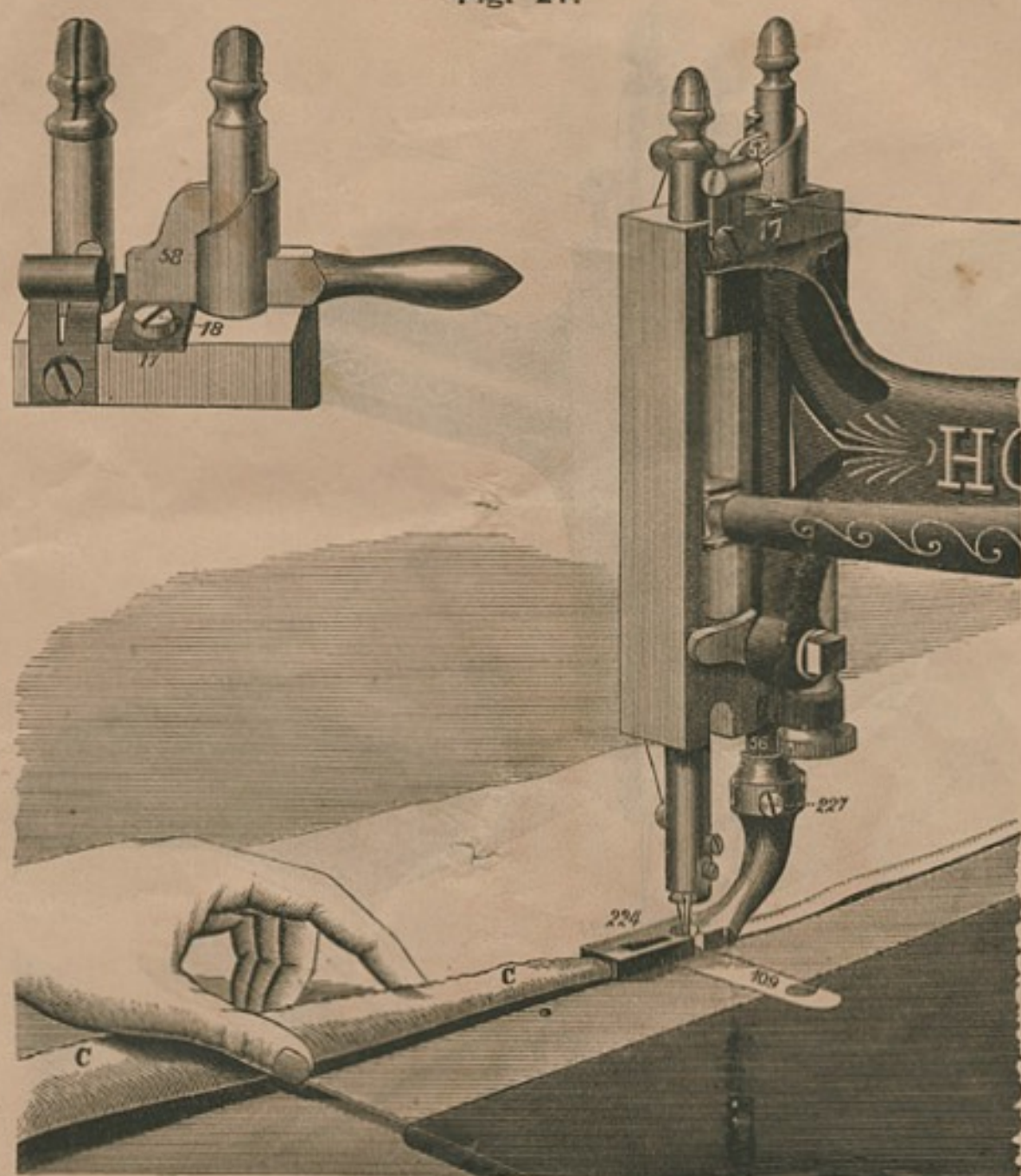


TO COMMENCE HEMMING.

Turn over the edge of the material and crease it down about two inches in length, as shown above; enter it into the hemmer, having the material, A A, pass under the hemmer foot, and the fold or creased edge C into the hemmer, over the blade B. Use a pin in assisting to enter the material into the hemmer and passing it along the blades to the needle.

Pull the handle of the lifter No. 60 towards you, letting the hemmer down on the material, and start the machine.

Fig. 21.



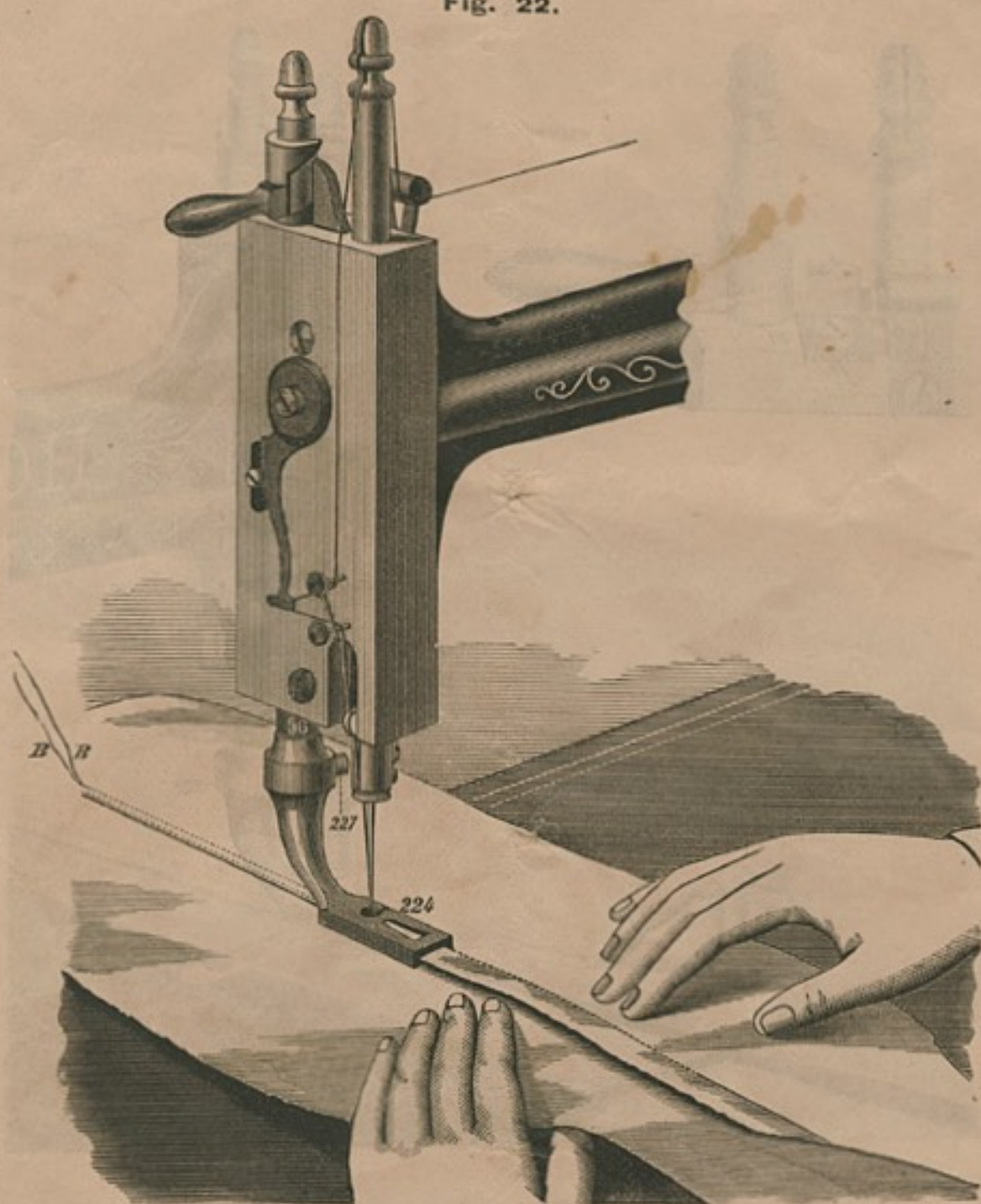
HEMMING.

With the left hand fold the edge of the material and guide into the hemmer just enough to fill the channel, as shown above, holding back on the material gently to keep it straight.

If too much material is fed into the hemmer it will be crowded out under the right hand edge, thus making a wide and irregular hem, and if not enough the raw edge will not be turned under. If the stitching is too far from the edge of the hem, loosen screw No. 227, and turn the hemmer a little to the right; if too near the edge, turn it a little to the left. When the hemmer is properly adjusted fasten it firmly with the screw No. 227. If the presser bar guide No. 58 becomes loose, allowing the hemmer to work sideways, loosen screw No. 18, and move up adjuster No. 17 close against the guide No. 58 and tighten the screw.

NOTE.—In removing the work from the hemmer, always take it out from *yo* towards the back part of the machine, as shown in Fig. 18, page 20. If you pull it out towards you, you will be liable to ruin the hemmer.

Fig. 22.



TO MAKE A FELL.

Place the two pieces of material to be felled under the hemmer, and let it down upon them; have the edge of the lower piece project about an eighth of an inch beyond the edge of the upper; stitch them together, guiding the edge of the upper piece by the right hand edge of the hemmer at 224. On reaching the end of the same pull the work out, as shown in Fig. 18, page 20; cut the threads, leaving ends about three inches long attached to the material, as shown at B B.

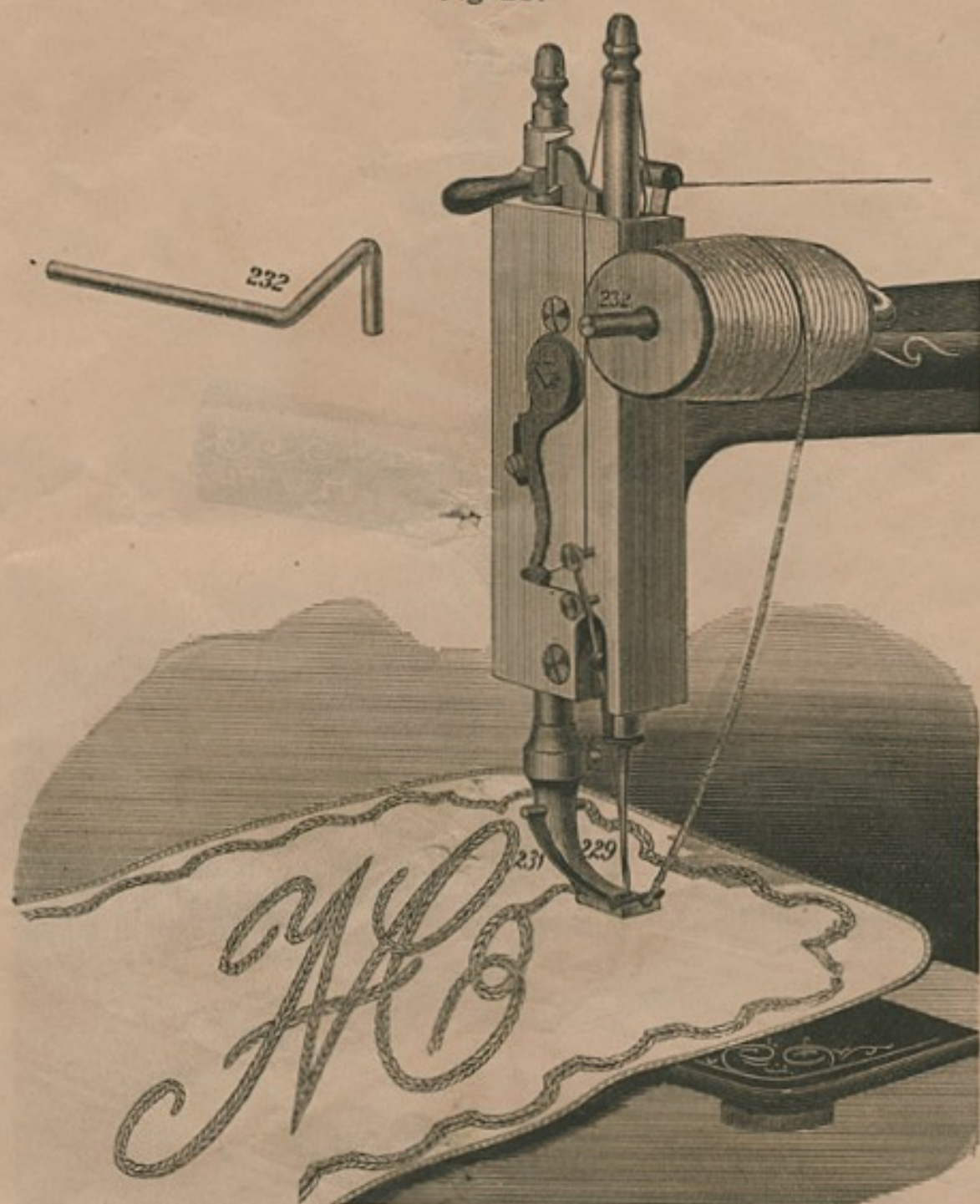
Trim the edges, if necessary, as in hand felling, the upper one as close as it will bear with safety, leaving the under one just wide enough to fill the hemmer, as shown in Fig. 20, page 22.

Open out the goods, turn the wide edge over to the left and crease it down, holding the material in the left hand, raise it up a little, take hold of the two threads B B, and draw the edge to be felled into the hemmer over the blade B as far as the needle, and let down the hemmer upon the work, and start the machine. Pull gently on the threads B B until two or three stitches have been taken.

Keep the cloth smooth and guide it into the hemmer, as shown above. Be sure to draw the work from you when removing it, as shown in Fig. 18, page 20.

NOTE.—Never attempt to fell coarse, heavy goods with this hemmer.

Fig. 23.



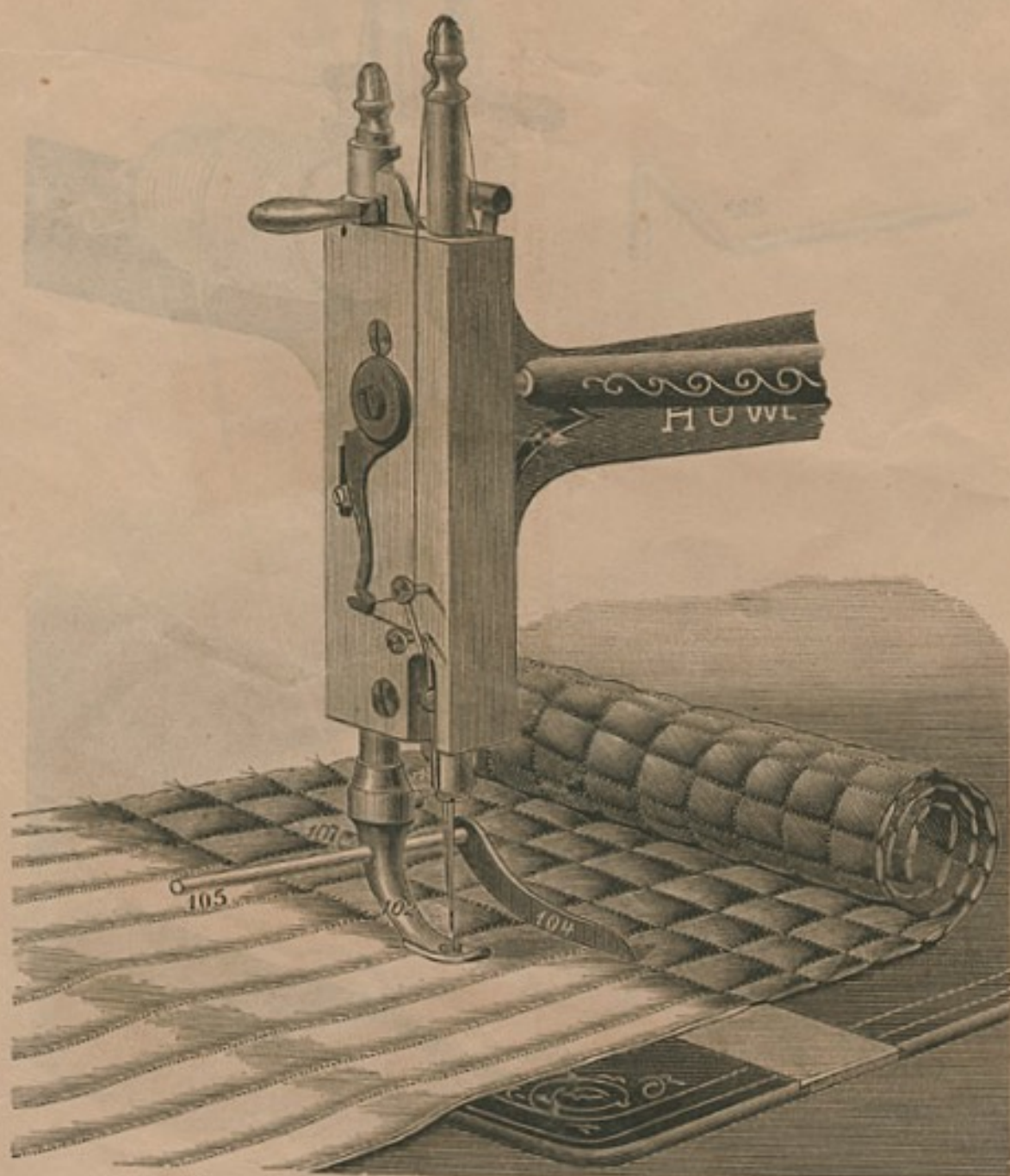
BRAIDING.

Have the needle at its highest point; attach the *Braider Foot* No. 229 in place of the presser foot; be careful to have the needle pass through the *centre* of the needle hole in the braider. Insert the short end of the braider wire No. 232 in the hole in the presser arm, as in Fig. 26, page 28, and fasten it with the set screw in the back part of the arm.

Place the spool of braid on the long end of the wire No. 232; pass the braid under the end of the spring No. 231, and down through the needle hole in the foot, letting the end extend back from the under side of the foot, as shown above; start the machine, guiding the material according to the pattern already marked out. In turning square corners, have the needle about half way down.

NOTE.—The following fixtures, viz.: a Gauge, Thumb-Screw, twelve Needles, six Bobbins, one Wrench, Oil-Can filled with Oil, Screw-Driver, Shuttle Screw-Driver, an extra Needle or Throat-Plate, a narrow Hemmer (which is also a Feller), a Braider, and Quilting Gauge, go with each family machine—also with the step feed B and step feed C machines—free of charge.

Fig. 24.



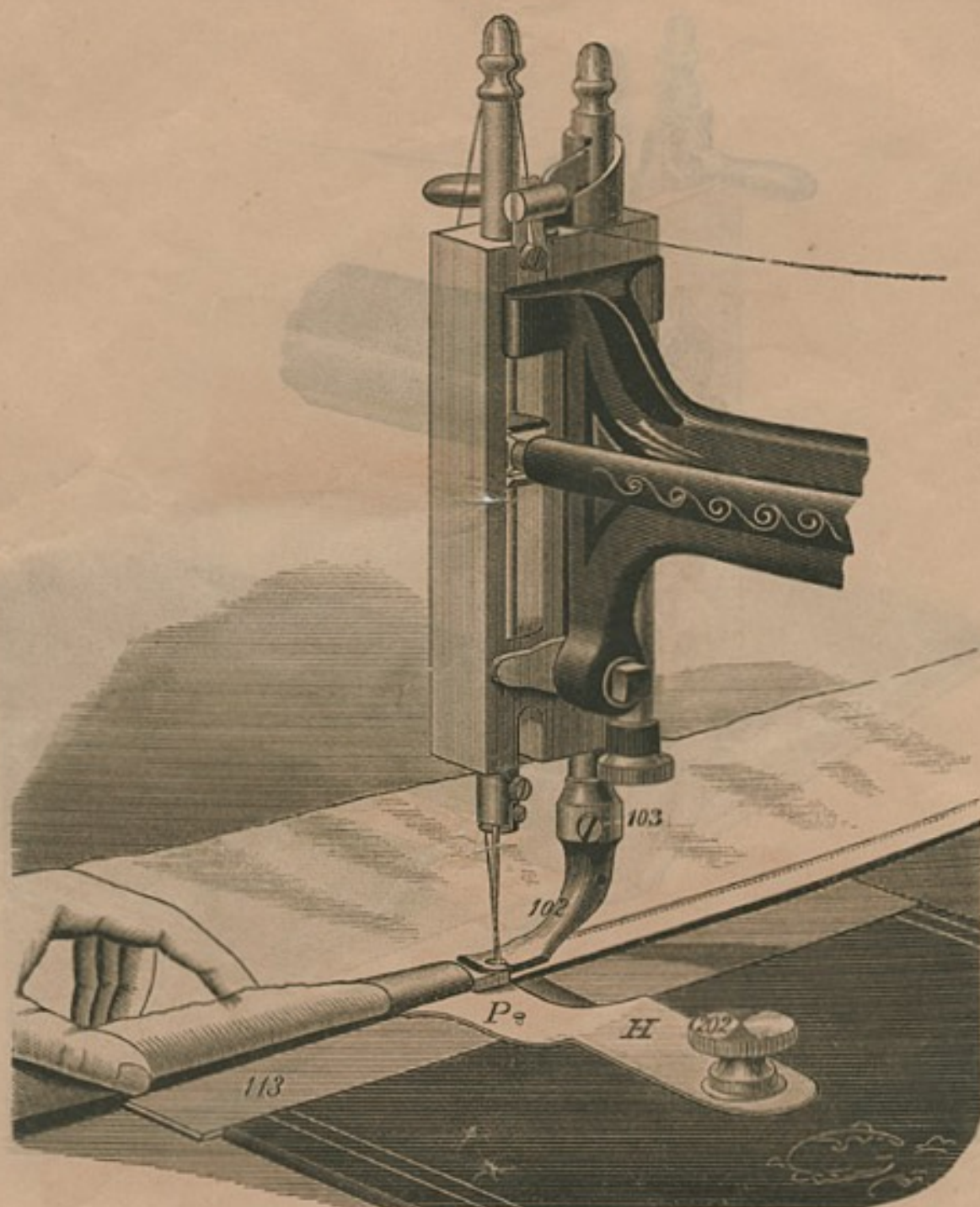
QUILTING.

To attach the quilting gauge, put the quilter bar No. 105 through the hole in the presser foot, as shown above, and fasten it in place with screw No. 107 in the back part of the presser foot.

Adjust it to the right or left, according to the distance required between the lines of stitching, and just far enough above the bed of the machine to allow the work to pass under freely.

The first line of stitching should pass through the centre of the goods, and from this line work both ways towards the edge.

Fig. 25.



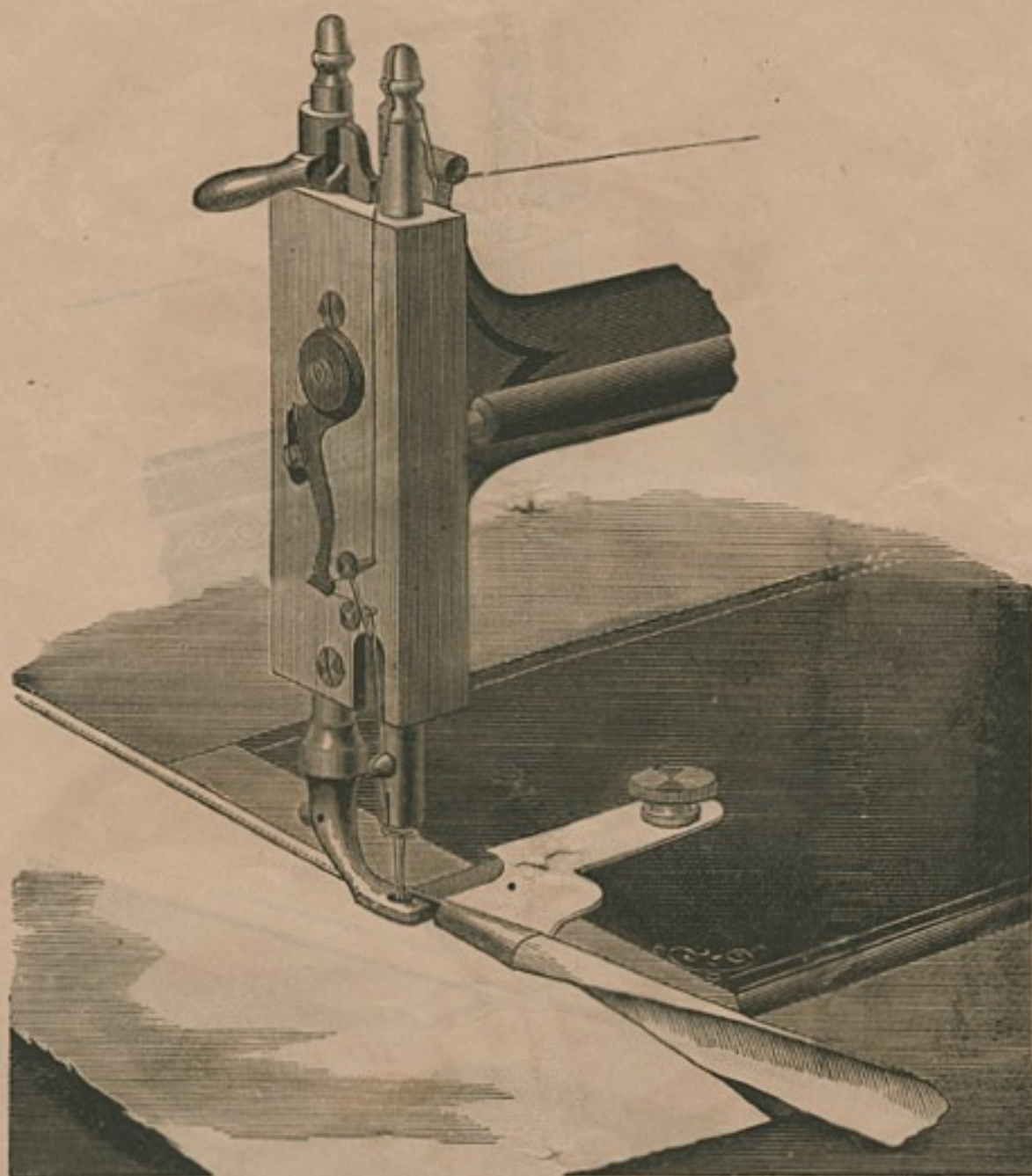
BED PLATE HEMMER.

With the common presser foot No. 102 on, attach the hemmer H to the machine by means of the gauge screw No. 202. Be careful to have the small pin projecting from the under side at P pass downward between the end of the slide 113 and the edge of the throat plate; for that purpose pull the slide out a little, enter the edge of the material in the hemmer so as to fill the scroll, work it forward and back a little until the hem is turned evenly, let the presser foot down, being careful not to disarrange the hem, start the machine, and guide the material in so as to keep the scroll filled, as shown above.

NOTE.—This hemmer is used principally for unbleached muslin, sheeting, table cloths, and goods generally of this grade.

This attachment will be charged for extra. Retail Price, 50 cents.

Fig. 26.



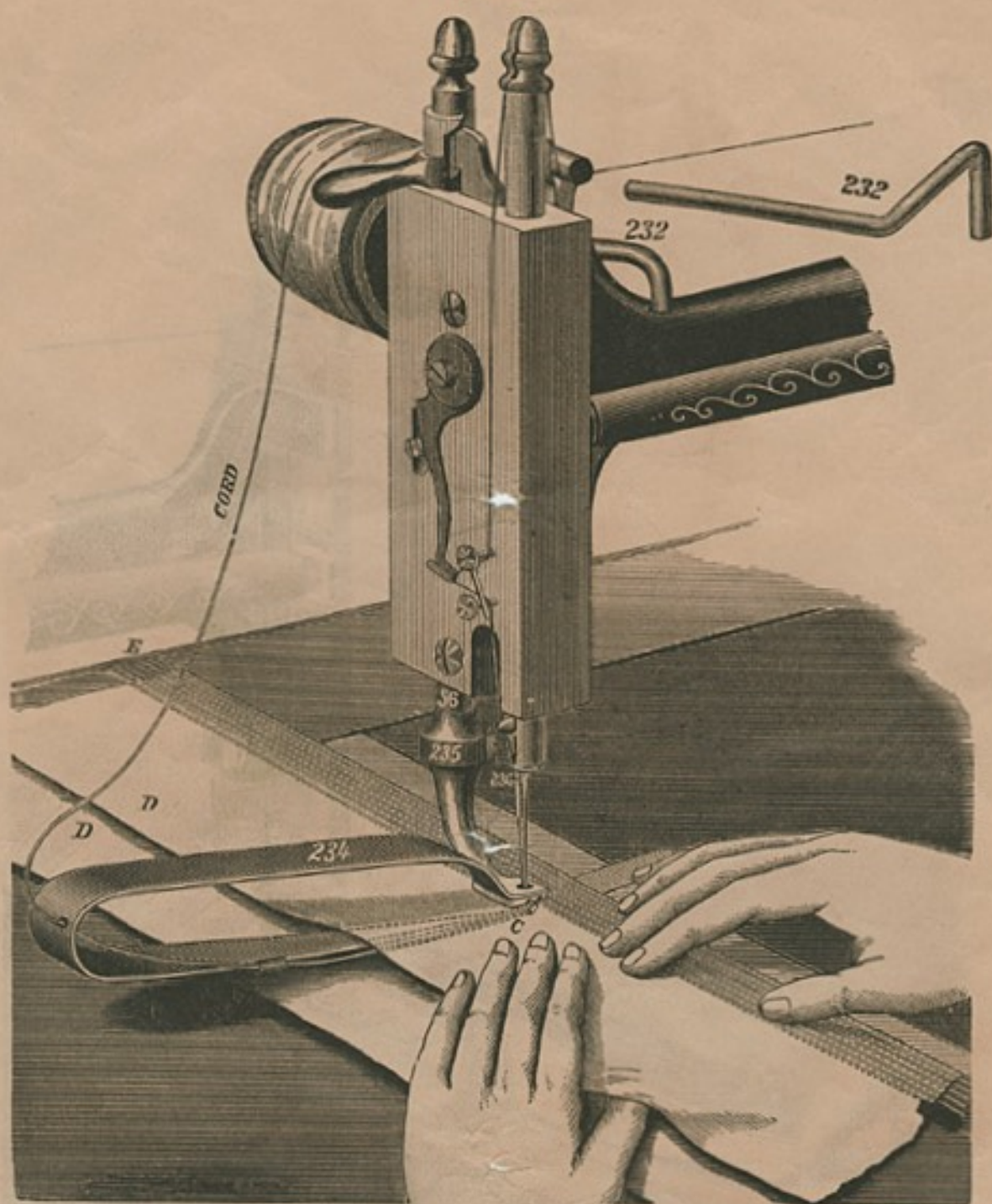
BINDING.

Attach the binder to the machine with the gauge screw, pass the binding through both scrolls of the binder and draw it back over the feed. Place the material to be bound between the upper and lower scrolls of the binder, with the edge close against the binding, and let down the presser foot. Adjust the binder to the right or left to sew near the edge of the binding; have the stitch rather longer than in ordinary sewing. Hold the binding so as to enter the binder freely, and hold the material to the right, with the edge against the binding.

NOTE.—A strip cut from any light material, either straight or bias, may be used instead of binding. It should be cut of even width, about three-fourths of an inch wide. The binder will turn the edges under. If the binding is cut too wide it will pucker, and if too narrow the edges will not be turned under.

This attachment will be charged for extra. Retail price \$1.

Fig. 27.



CORDING.

Raise the needle to its highest point and attach the corder in place of the presser foot, so that the needle will pass through the centre of the needle hole of the corder foot. Place the spool of cord on the pin 232, and pass the cord through the hole in the bow then through the eyelet on the side of the blade, and lastly through the tube on the end of the blade at C, letting it extend back under the foot in the direction of E.

Fold the material and crease it down, pass one edge of the material under and the other over the corder blade, as shown at D D, so that the tube C on the end of the corder blade will be between the cloth and close against the crease, and let down the foot upon the work. In stitching in the first cord, guide the work slightly to the left, so as to lay the cord close into the crease, keeping the work smoothly in front of the needle, the cord passing through the left hand groove in the bottom of the corder foot. Stitch the second cord in close against the first by guiding the work slightly to the left, as before.

Make the stitch rather longer than in ordinary sewing, and in turning square corners have the needle down.

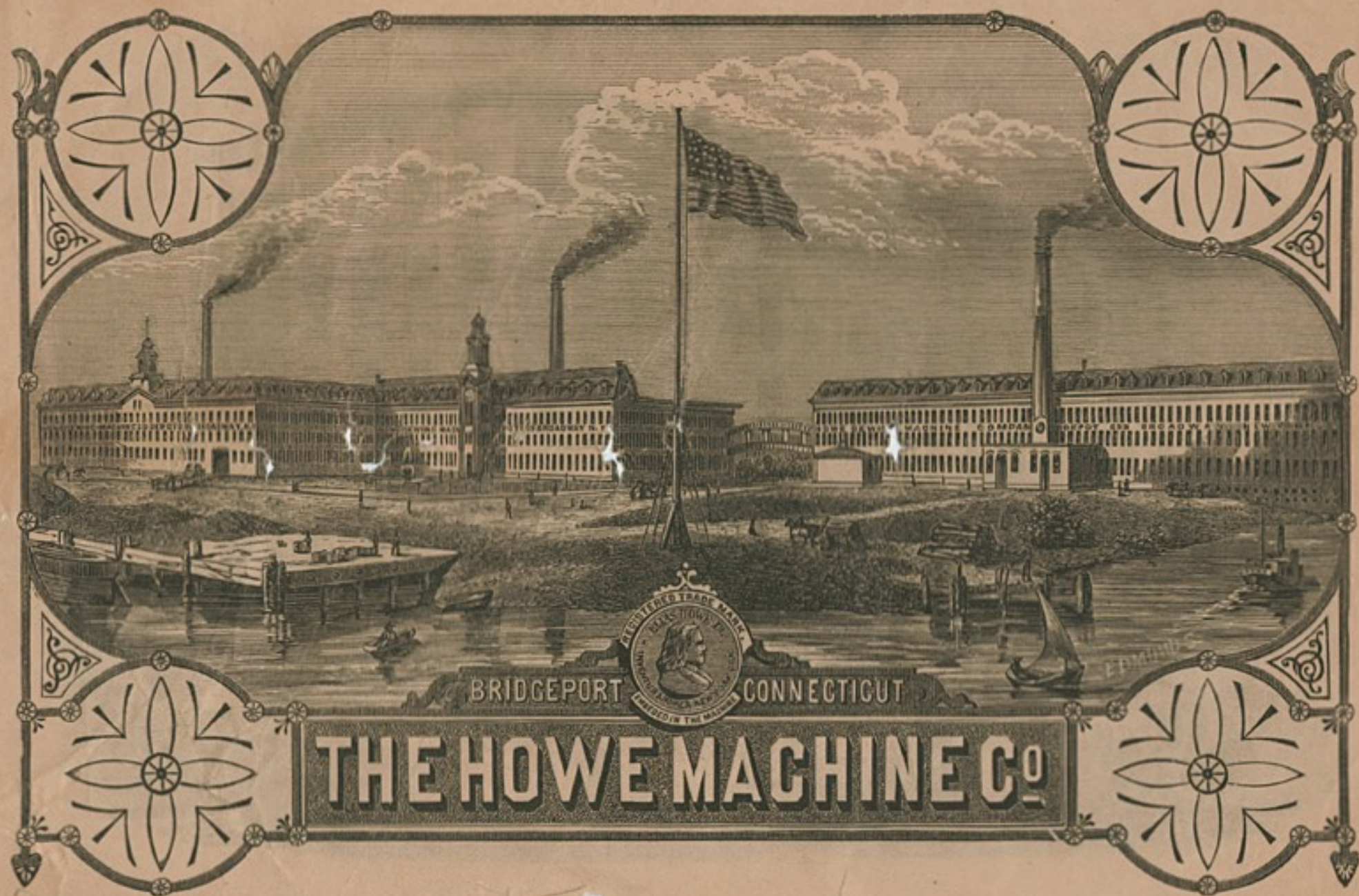
This attachment will be charged for extra. Retail price \$2.

Fig. 28.



RUFFLING.

The instructions for using the Ruffler always accompany it. We have therefore omitted giving any here. This attachment will be charged for extra. Retail price \$3.



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CONNECTICUT

THE HOWE MACHINE CO.





THE ORIGINAL Howe Sewing Machine.



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