

43015

THE
ORIGINAL
HOWE SEWING MACHINE



MANUFACTURED BY
THE HOWE MACHINE COMPANY,

ELIAS HOWE, JR.,
DEPOT, 699 BROADWAY,

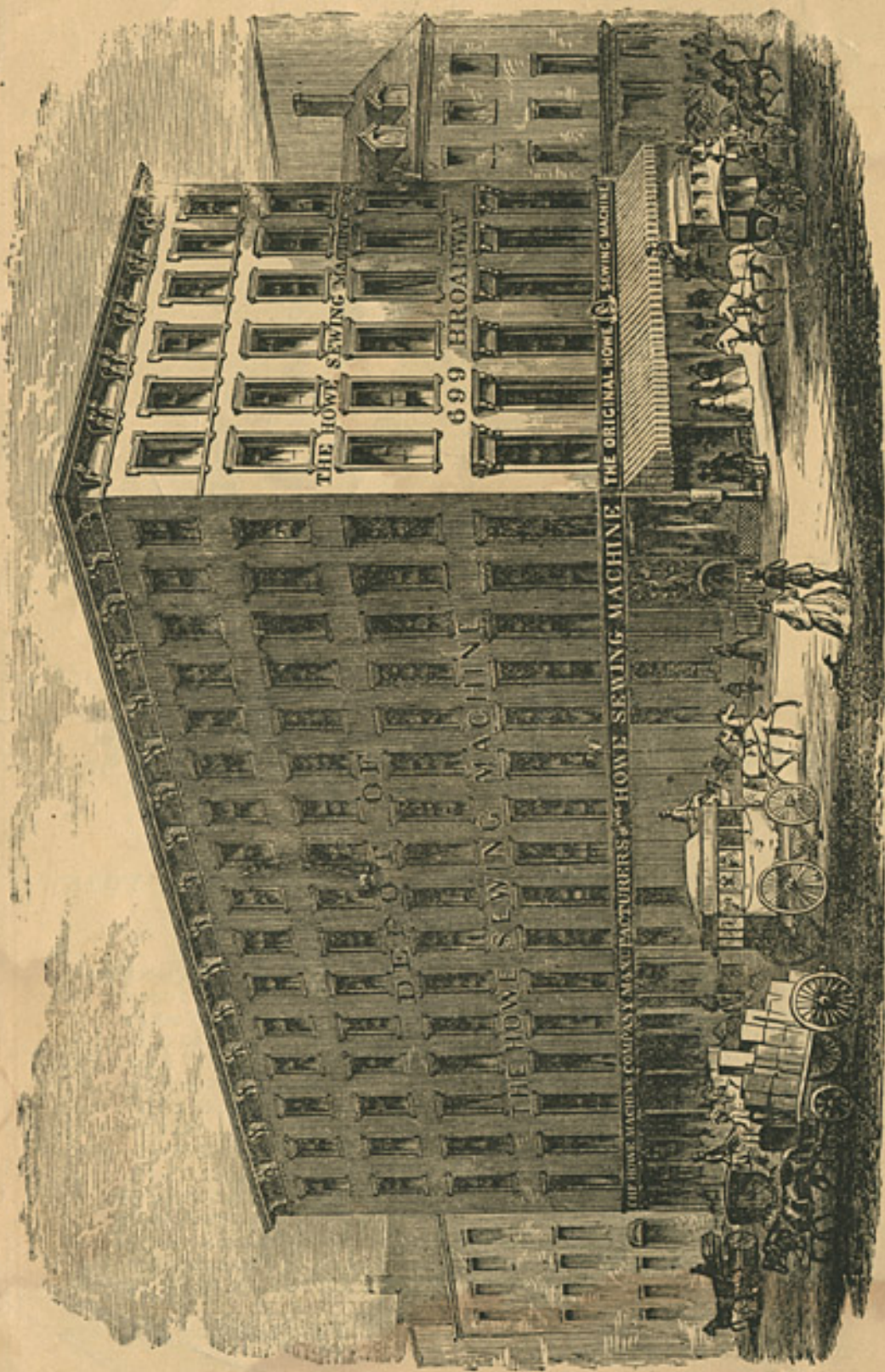
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THE
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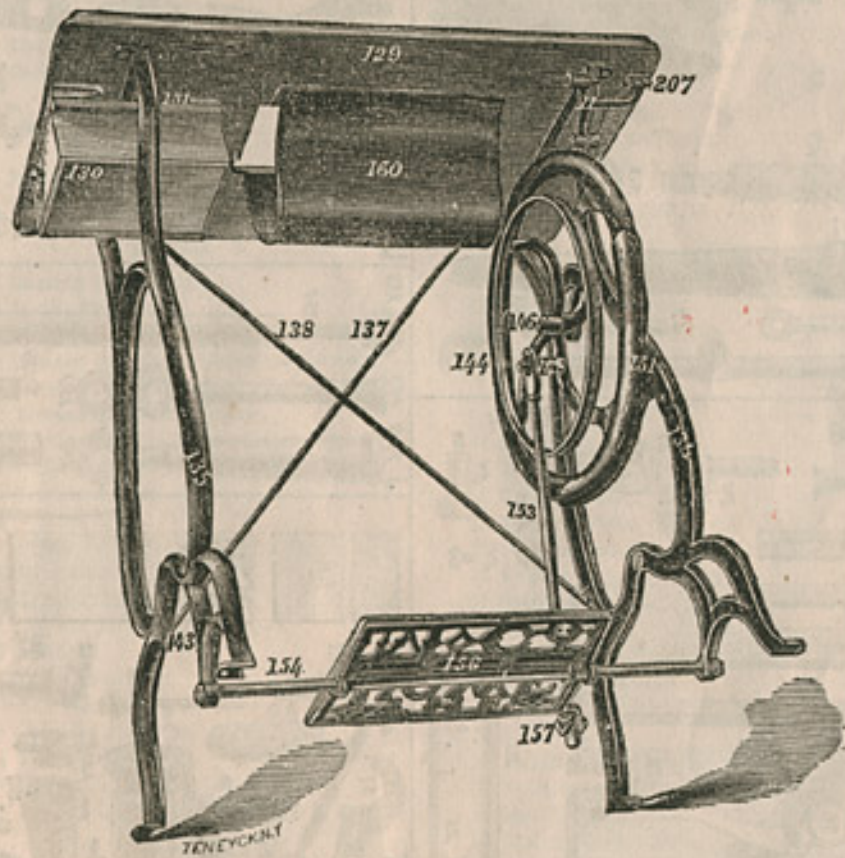
INSTRUCTION BOOK
 FOR THE
HOWE SEWING MACHINE,
STEP FEED.

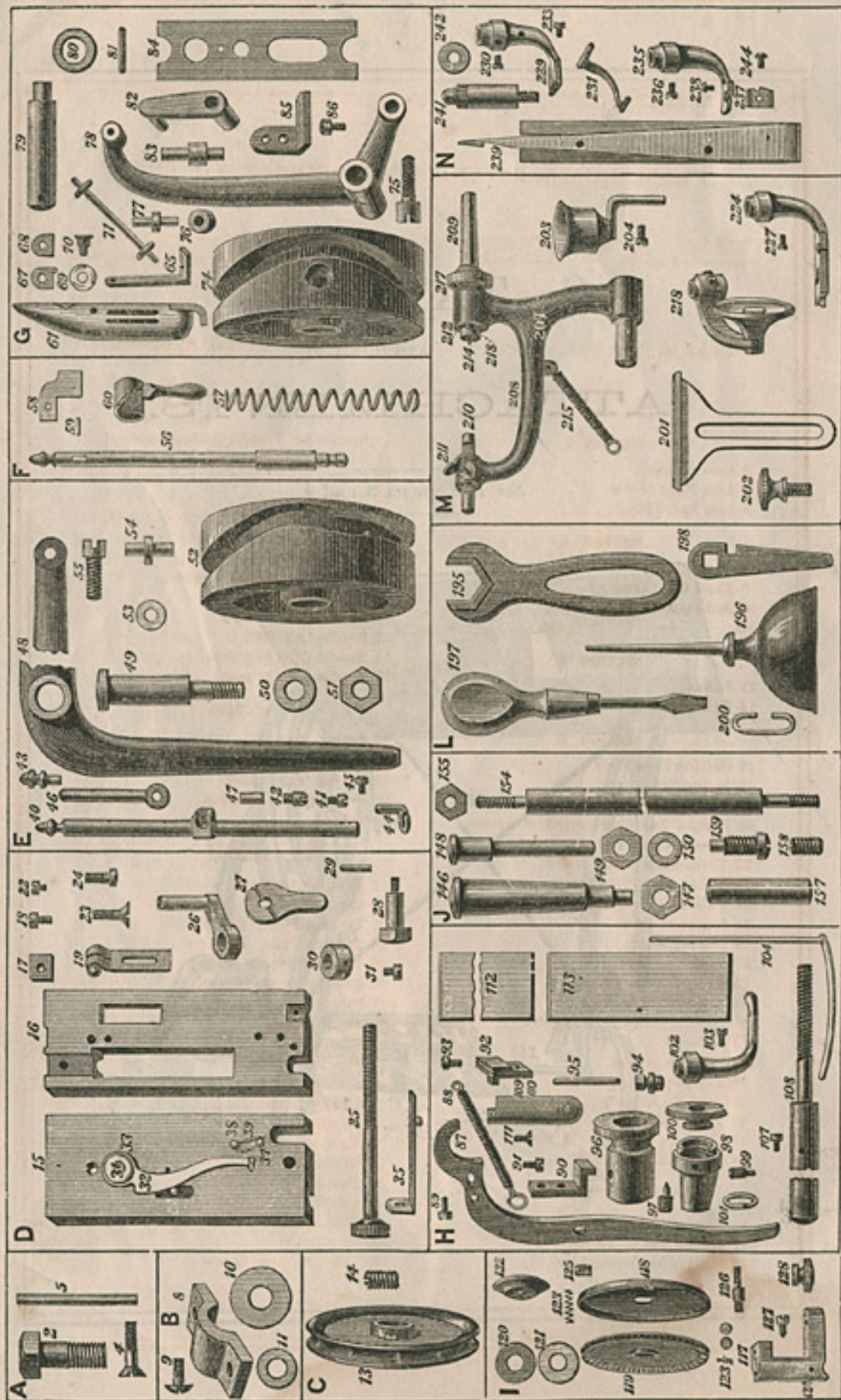
NEW YORK:
 PRINCIPAL OFFICE, 699 BROADWAY.

1867.

TABLE
AND
ATTACHMENTS.

See List, pages 3 and 4.





THESE NUMBERS AND NAMES REFER TO THE
PLATES OF PARTS
 ON THE PRECEDING PAGES.

Order all Parts by the Numbers, and state what Size Machine, A, B, or C.

SECTION A.

- 2 Arm Screw.
- 4 Arm Plate Screw.
- 5 Arm Spool Pin.

SECTION B.

- 8 Shaft Cap.
- 9 Shaft Cap Screw.
- 10 Bed Plate Washer. $\frac{1}{8} \times \frac{3}{4}$.
- 11 do. $\frac{3}{8} \times \frac{1}{2}$.

SECTION C.

- 13 Pulley.
- 14 Pulley Screw.

SECTION D.

- 15 Outside Face Plate.
- 16 Inside Face Plate.
- 17 Presser Bar Guide Adjuster.
- 18 Presser Bar Guide Adjuster Screw.
- 19 Thread Controller.
- 22 Thread Controller Screw.
- 23 Inside Face Plate Screw.
- 24 Outside Face Plate Screw.
- 25 Presser Screw.
- 26 Presser Slide.
- 27 Adjusting Cam.
- 28 Adjusting Cam Screw.
- 30 Presser Screw Boss.
- 31 Presser Screw Boss Screw.
- 32 Take Up.
- 33 Take Up Spring.
- 34 Take Up Spring Screw.
- 35 Take Up Adjuster.
- 37 Thread Guide Pin.
- 38 Thread Guide Pin, (Drilled.)
- 39 Thread Guide Pin Wire.

SECTION E.

- 40 Needle Bar.
- 41 Needle Bar Set Screw.
- 42 Needle Bar Thread Shield.

- 43 Needle Bar Thread Guide, (Upper.)
- 44 Needle Bar Thread Guide, (Lower.)
- 45 Needle Bar Thread Guide Screw.
- 46 Needle Bar Piston.
- 47 Needle Bar Piston Pin.
- 48 Needle Lever.
- 49 Needle Lever Stud.
- 50 Needle Lever Stud Washer.
- 51 Needle Lever Stud Nut.
- 52 Needle Cam.
- 53 Needle Cam Roll.
- 54 Needle Cam Roll Stud.
- 55 Needle Cam Screw.

SECTION F.

- 56 Presser Bar.
- 57 Presser Bar Spring.
- 58 Presser Bar Guide.
- 59 Presser Bar Guide Pin.
- 60 Lifter.

SECTION G.

- 61 Shuttle complete.
- 65 Shuttle Latch.
- 67 Tension Plate, (Upper.)
- 68 Tension Plate, (Lower.)
- 69 Shuttle Tension Spring.
- 70 Shuttle Tension Screw.
- 71 Bobbin.
- 74 Shuttle Cam.
- 75 Shuttle Cam Screw.
- 76 Shuttle Cam Roll.
- 77 Shuttle Cam Roll Stud.
- 78 Shuttle Lever.
- 79 Shuttle Lever Stud.
- 80 Shuttle Lever Stud Washer.
- 81 Shuttle Lever Stud Pin.
- 82 Shuttle Driver Link.
- 83 Shuttle Driver Stud.
- 84 Shuttle Driver Slide
- 85 Shuttle Driver.
- 86 Shuttle Driver Screw

SECTION H.

- 87 Feed Lever.
- 88 Feed Lever Spring.
- 89 Feed Lever Spring Pin.
- 90 Feed Lever Rider
- 91 Feed Lever Rider Screw.
- 92 Feed Surface.
- 93 Feed Surface Screw.
- 94 Feed Rocker Screw.
- 95 Feed Rocker Pin.
- 96 Lift Cam.
- 97 Lift Cam Screw.
- 97½ Feed Cam Complete.
- 98 Feed Cam.
- 99 Feed Cam Screw.
- 100 Feed Cam Nut.
- 101 Feed Cam Nut Spring.
- 102 Presser Foot.
- 103 Presser Foot Screw.
- 104 Quilting Gage.
- 107 Quilting Gage Screw.
- 108 Shaft.
- 109 Throat Plate, (large hole.)
- 110 Throat Plate, (small hole.)
- 111 Throat Plate Screw.
- 112 Shuttle Race Cover, (Back.)
- 113 Shuttle Race Cover, (Front.)

SECTION I.—TENSION.

- 116 Tension Complete.
- 117 Tension Stand.
- 118 Tension Back Plate.
- 119 Tension Wheel.
- 120 Tension Washer, (Back.)
- 121 Tension Washers, (Front.)
- 122 Tension Nut Washer.
- 123 Check Spring.
- 123½ Check Spring Washers.
- 124 Check Spring Slot.
- 125 Check Spring Screw.
- 126 Screw Stud.
- 127 Tension Set Screw.
- 128 Thumb Nut.

SECTION J.—TABLE.

- 129 Table Top.
- 130 Drawer.
- 131 Drawer Slides.
- 134 Leg, (Right.)
- 135 Leg, (Left.)
- 137 Outside Leg Brace.
- 138 Inside Leg Brace.
- 139 Outside Leg Brace Cap.
- 140 Inside Leg Brace Cap.
- 141 Leg Brace Cap Screw.

- 143 Leg Brace Screw, No. 20. ¾
- 144 Driving Wheel.
- 146 Driving Wheel Stud.
- 147 Driving Wheel Stud Nut.
- 148 Crank Pin.
- 149 Crank Pin Nut.
- 150 Crank Pin Washer.
- 151 Wheel Guard.
- 152 Wheel Guard Screw.
- 153 Pitman.
- 154 Treadle Rod.
- 155 Treadle Rod Nuts.
- 156 Treadle.
- 157 Treadle Pin.
- 158 Treadle Pin Screw.
- 159 Treadle Screw.
- 160 Dripper.
- 161 Dripper Screw.

SECTION L.

- 195 Wrench
- 196 Oil Can.
- 197 Screw Driver.
- 198 Shuttle Screw Driver.
- 199 Belt.
- 200 Belt Hook.
- 201 Gage.
- 202 Gage Screw.
- 203 Oil Cup Complete.
- 204 Oil Cup Set Screw.
- 207 Spooler Complete.
- 208 Spooler Frame.
- 209 Spooler Spindle.
- 210 Spooler Step.
- 211 Spooler Thumb Screw.
- 212 Spooler Spindle Washer.
- 214 Spooler Spindle Driving Pin
- 215 Spooler Spring.
- 217 Rubber Ring.
- 218 Roll Presser Complete.
- 224 Hemmer Complete.
- 227 Hemmer Set Screw.
- 228 Braider Complete.
- 229 Braider Foot.
- 230 Braider Foot Screw
- 231 Braider Spring.
- 233 Braider Spring Bar Screw.
- 234 Corder Complete.
- 235 Corder Foot.
- 236 Corder Foot Set Screw.
- 237 Corder Foot Surface Guide.
- 238 Corder Foot Surface Guide Screw.
- 239 Spring Cord Guide.
- 241 Spring Cord Guide Screw.
- 242 Spring Cord Guide Washer.
- 243 Spool Pin for Braid.
- 244 Set Screws for 243.

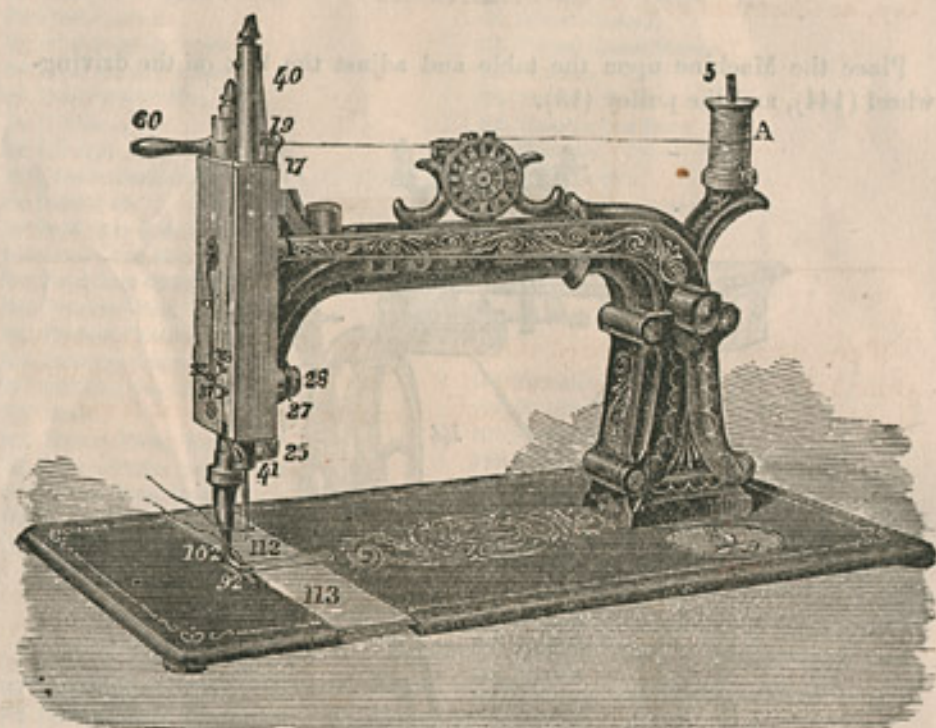
DIRECTIONS FOR USING THE

HOWE STEP-FEED SEWING MACHINES.

Place the Machine upon the table and adjust the belt on the driving-wheel (144), and the pulley (13).



The operator should first become familiar with the treadle motion. Place the feet upon the treadle so that the hollow of the foot may rest directly above the treadle rod (154). Press alternately on the heel and toe to give a rocking motion to the treadle, taking especial care that the top of the driving-wheel (144) turns over from the operator, and never backwards; this will give the right motion to the Machine. The treadle motion should be even and regular. If it is difficult to get a regular motion at first, throw the belt off and operate the table only, until a perfectly even motion becomes easy and natural. Then replace the belt and operate as before. Be careful that the presser foot (102) is raised up when running the Machine, if there is no fabric under it.



SETTING THE NEEDLE.

Raise the needle bar (40) to its highest point. Place the shank of the needle up into the hole in the lower end of the needle bar, and fasten it firmly in its place with the screw (41) near the lower end of the bar.

Let the smooth side, or the side of the needle having the short groove, be next to the shuttle, and the long groove on the opposite side, the eye of the needle pointing at right angles to the direction of the shuttle motion, so as to throw the loop of thread directly into the shuttle race.

By turning the driving wheel (144) over, the needle will descend to its lowest point, and by continuing this movement, the needle will raise about an eighth of an inch and throw out a loop of thread; (the needle should be threaded through from left to right)

Upon first setting the needle, this loop may not be in proper position for the shuttle to enter, as the needle may be set too high, or too low. *The rule for setting the needle is,—Set the needle with the short groove on the side towards the shuttle, so that the shuttle will enter the largest part of the loop, as illustrated at a, b.*



When using ordinary sized threads, the eye of the needle should be about half-way between the bottom of the shuttle race and the point of the shuttle. For coarse threads the needle should be set somewhat lower.

MISSING STITCHES

If the thread is improperly twisted, it may throw the loop towards one side, instead of square into the shuttle race. In that case the needle should be slightly turned in an opposite direction, to counteract this tendency to throw the loop away from its proper position.

Sometimes the shuttle will miss the loop because the needle sets too far from the shuttle, and at other times the shuttle may strike the needle because the needle sets into the shuttle race.

To adjust the needle nearer to, or farther from the shuttle, turn the screw (28) outwards a little, so that the head of the Machine may be moved.

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

To set the needle farther from the shuttle, move the adjusting cam (27) downwards, and tighten the screw (28), as before. The needle should set as near the shuttle as possible without danger of striking it. The needles, being of different sizes, will set at different distances from the shuttle, unless the head cam be adjusted to suit the different sizes.

When using very fine needles, and also when stitching heavy work, be sure that the points of the needles are perfect, and on a line with the centre of the direction of the needle, and not blunted or turned over. An imperfect needle may cause the best Machine to miss stitches.

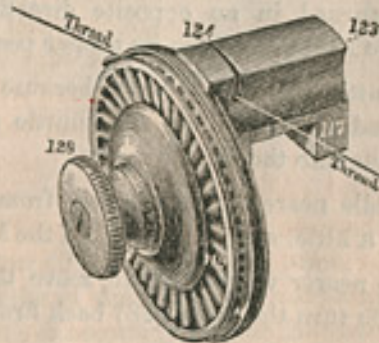
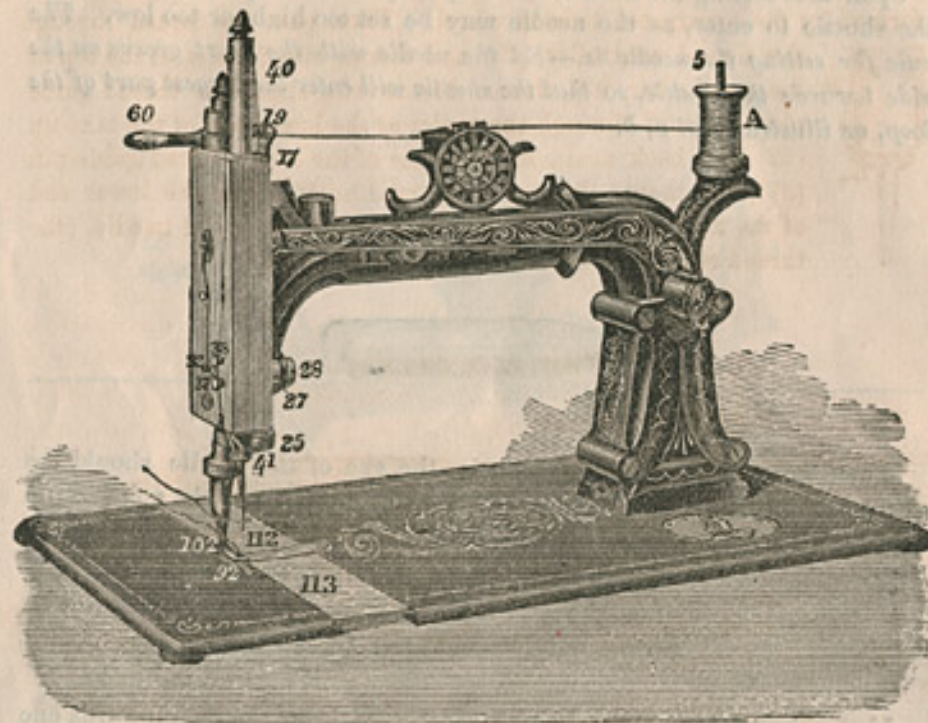


Figure 2.

THREADING THE MACHINE.

Upon the spool pin (5), place the spool A, so that it will turn perfectly free. Draw the thread into slot (124), (See Fig. 2), that is in the top of the tension stand (117), carrying the thread down to the bottom of 124. Then pass the thread around the outside of

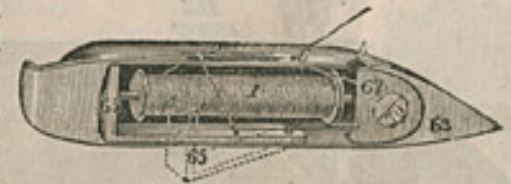
the tension wheel (119), letting the thread lie in the V shaped groove formed by the corrugated tension wheel. Then pass the thread through the thread controller (19) and thence into the slot at the top of the needle bar (40), thence downwards under the thread guide pin (38) and through the eyelet at the lower end of the take up pin (32) and back again to the right of the lower thread guide pin (37), and thence through the curved hook (44) at the lower end of the needle bar, and lastly, through the eye of the needle, (the thread running from left to right as described.)



THE SHUTTLE.

Wind the Bobbin evenly with suitable thread. Soft or unglazed thread is best.

To THREAD THE SHUTTLE, open the latch (65) as represented by the dotted lines. Insert one end of the bobbin in the small hole inside the shuttle tip (63), and let the other end rest upon the shelf underneath, (65), in the heel of the shuttle. Then close the latch. The thread should lead off so that the upper side of the bobbin will revolve over outwards; this is to prevent cross friction of the threads. Pass the end of the thread up through the slot (2), farthest from the edge of the shuttle, and down through the other slot; thence through the small hole in the latch, (65), nearest the edge of the shuttle, and up through the other hole. The latch may be opened when it is threaded.



The tension is procured by passing the thread between the two tension plates (67 and 68). Be sure that the thread passes BETWEEN THE TWO PLATES, and not under both plates

To pass the thread between these plates, draw off six or eight inches of the thread, and hold the shuttle and the end of the thread in the left hand; then taking the intervening thread in the right hand, form a loop, and pass the thread that leads from the left hand between the tension plates (67 and 68) at the notch (4), and draw it around the circular edge of the upper tension plate (67). Draw up the loose thread between the latch and the tension plates, and pass the end of the thread out of the hole (6).

The tension screw (70) is a left-handed 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 arrows, thus:



To decrease it, turn in the opposite direction.

Figure 1.

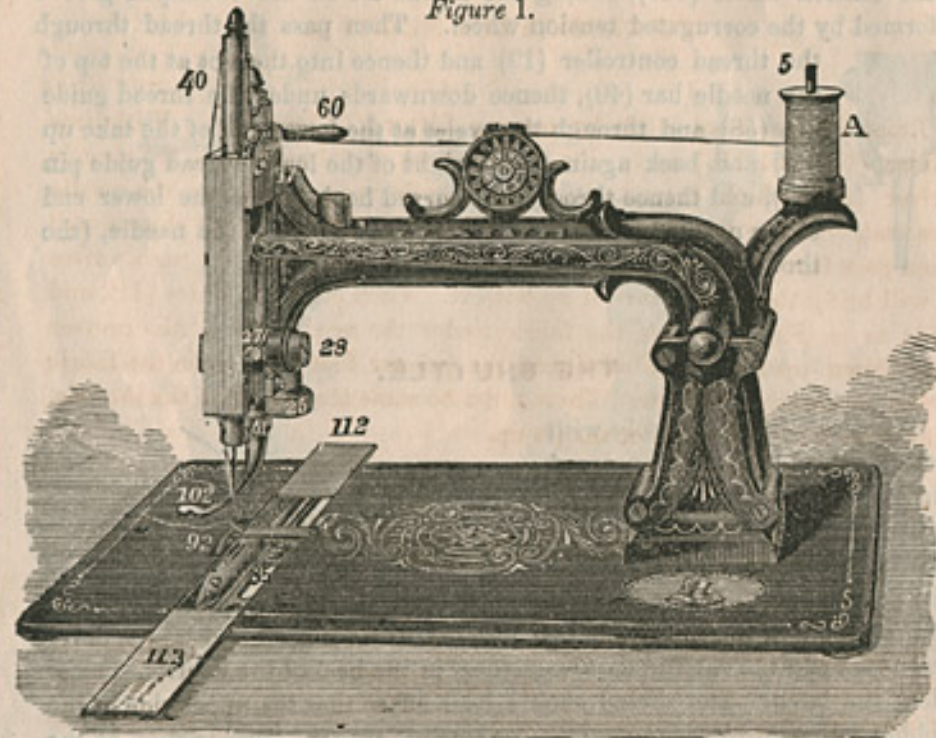


Figure 2.

**TO COMMENCE SEWING.**

Raise Presser Foot (102) by moving Lifter (60) from you. Withdraw Slides (112 and 113) as in *Fig. 1*, and hook the shuttle on to the shuttle driver (85), which extends into the shuttle race. Then let the needle descend, (putting the finger on the end of the thread). The shuttle will then pass through the loop of the needle thread, and when the needle rises it will bring the shuttle thread up with it. Then close the slides (112 and 113) as in *Fig. 2*. Place the fabric under the needle and let the presser foot down upon it. Be sure that the presser foot rests upon the fabric before commencing to sew. There must be some tension upon the threads, otherwise they will knot, or tangle up.

THE TENSIONS

To produce good work, the tensions should be thoroughly understood. The Howe (or lock) stitch is that chiefly used by first class Machines, and will neither rip nor ravel, and has the same appearance on both sides of the fabric. When the needle rises to its highest point, the shuttle travels forward a little at the same time, and both threads are locked together and drawn to the center of the fabric, thus:—



leaving a fair stitch on both sides, if both threads are of proper size and have the right amount of tension upon them

If the shuttle thread is very tight and the upper thread too loose, the under thread will lie straight, thus:—



because there is not sufficient upper tension to draw the under thread in. On the other hand, if the shuttle thread draws off too easily, and the upper is too tight, the under thread will be drawn up through the fabric, and the upper thread will lie straight, thus:—



while the under side may look well. The stitch should be made perfect on both sides. It is therefore necessary to have the tensions of both threads as nearly alike as possible, and as tight as the threads will sew without breaking. The upper tension can be increased or lessened at pleasure by turning the tension thumb nut, (128); the lower tension by turning the small screw within the shuttle, as before explained.

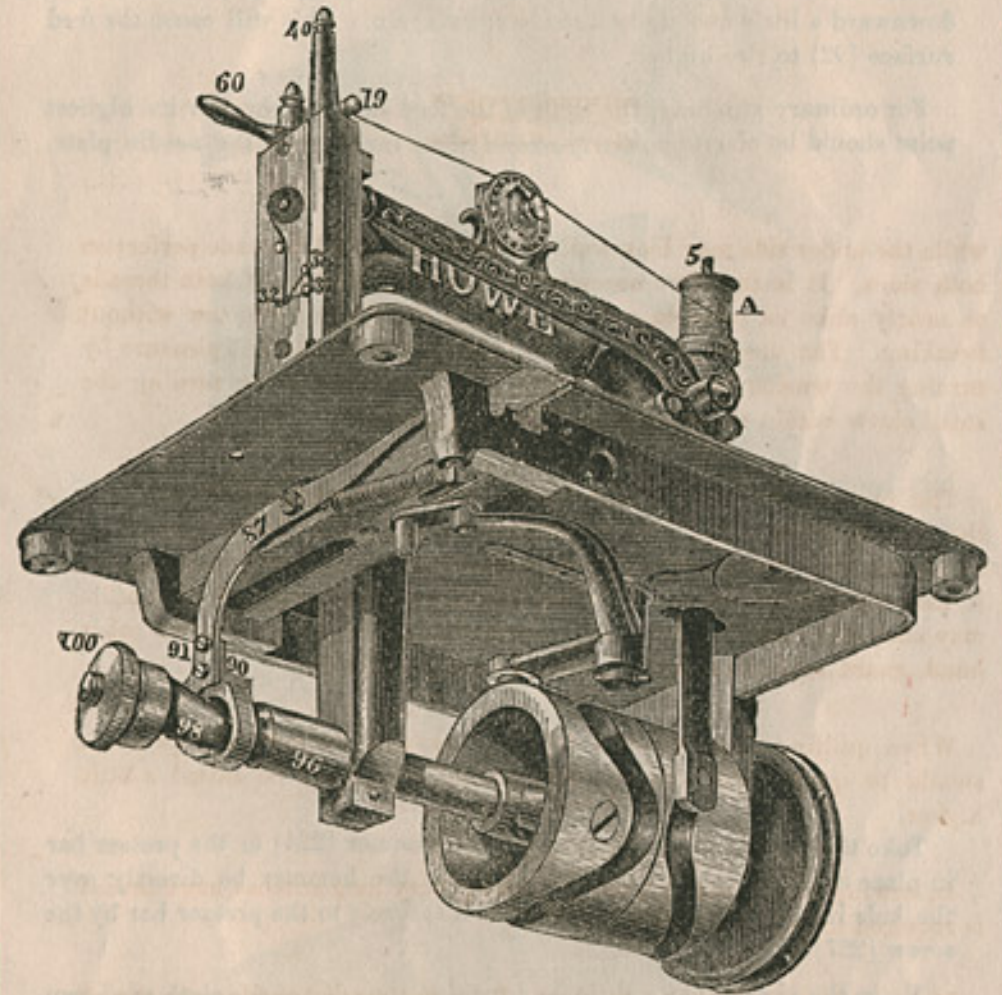
The presser foot (186) is intended to hold the material down firmly to the feeding surface, and also to prevent the material from being lifted up by the needle. Heavy and compact material requires more pressure upon it than lighter fabrics do. If there is not sufficient pressure, the needle may stick and raise the fabric and presser foot up together. On the other hand, guard against too much pressure on light fabrics.

When quilting light wadded fabrics, (as coat linings) the pressure should be quite light, and the feed should sometimes be raised a little higher.

In sewing thick material, or in making very long stitches more thread is required to form the stitch.

More or less thread may be given off by raising or lowering the thread controller, (19). When more thread is required lower the controller, and when less is needed raise it.

To vary the pressure,—turn thumb screw (25) so that it will give the pressure required. If the presser foot ever becomes loose and vibrates sideways, it may be made tight by setting up the presser bar guide adjuster, (17) (at the top of the head of the Machine) against the presser bar guide.



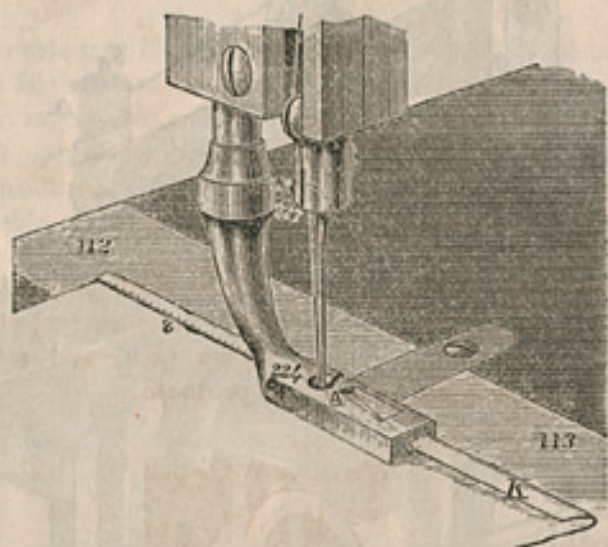
TO LENGTHEN OR SHORTEN THE STITCH.

On the end of the shaft of the Machine is a conical cam, (98) against which the lower part of the feed lever rests. Connected to the cam (98) is a thumb nut, (100). By turning this nut so that the cam (98) will be moved on to the shaft, the stitch will be lengthened, and by reversing this nut, so that the cam is moved towards the end of the shaft the stitch will be shortened.

TO RAISE OR LOWER THE FEED.

The feed lever rider (90) rests upon the lift cam (96). The feed lever (87) is slightly slotted at the two screw holes near the lower end of the lever. Loosen the two feed lever rider screws (91), and press the rider downward a little and tighten the screws again. This will cause the feed surface (92) to rise higher.

For ordinary stitching, the teeth of the feed surface when at its highest point should be about one *thirty-second* of an inch above the needle plate.

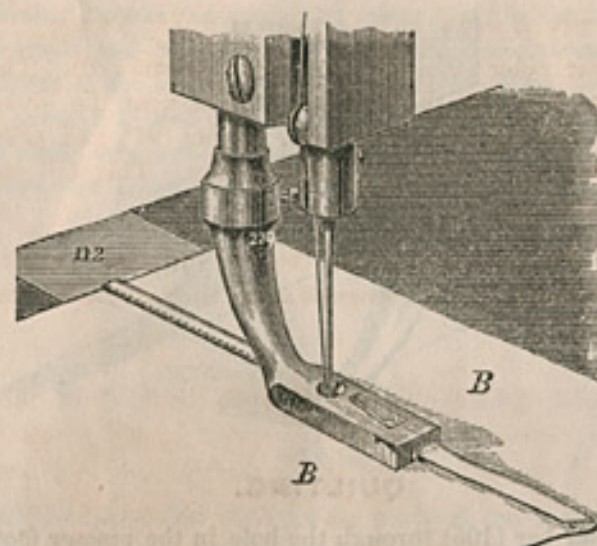
**THE HEMMER.**

Take the presser foot off and fasten the hemmer (224) to the presser bar in place of the foot, and let the hole (A) in the hemmer be directly over the hole in the needle plate, and fasten it securely to the presser bar by the screw (227).

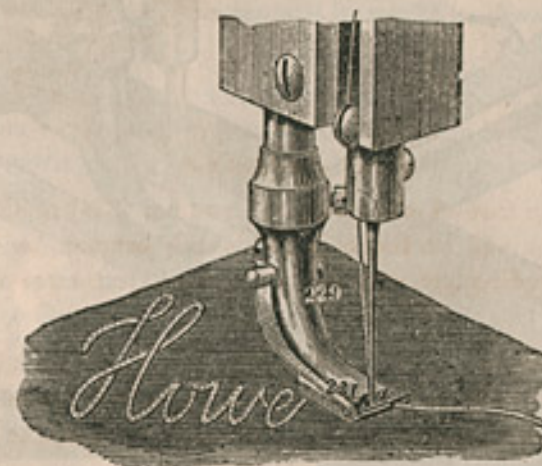
Raise the presser bar a little, and turning the edge of the cloth as shown at (K), put it into the hemmer and draw it along to the needle. Then let the hemmer down upon the feed surface, and operate the Machine as usual.

If the stitch takes the hem (S) too far from the edge, turn the hemmer a little to the right. If on the contrary, the stitch does not catch the edge of the hem, turn the hemmer a little to the left.

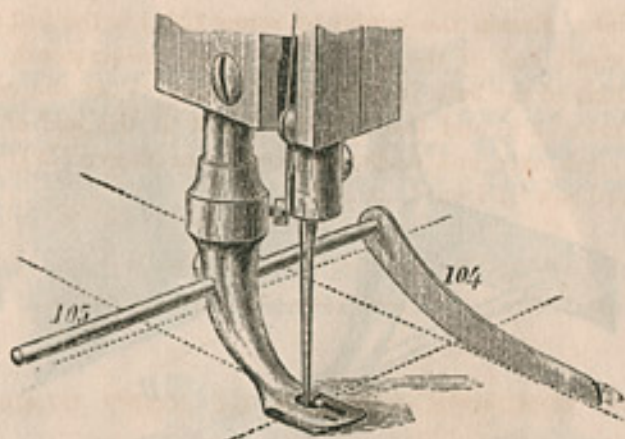
To make a wide hem, fold the cloth the width desired, and enter the edge of the cloth as before.

**TO FELL.**

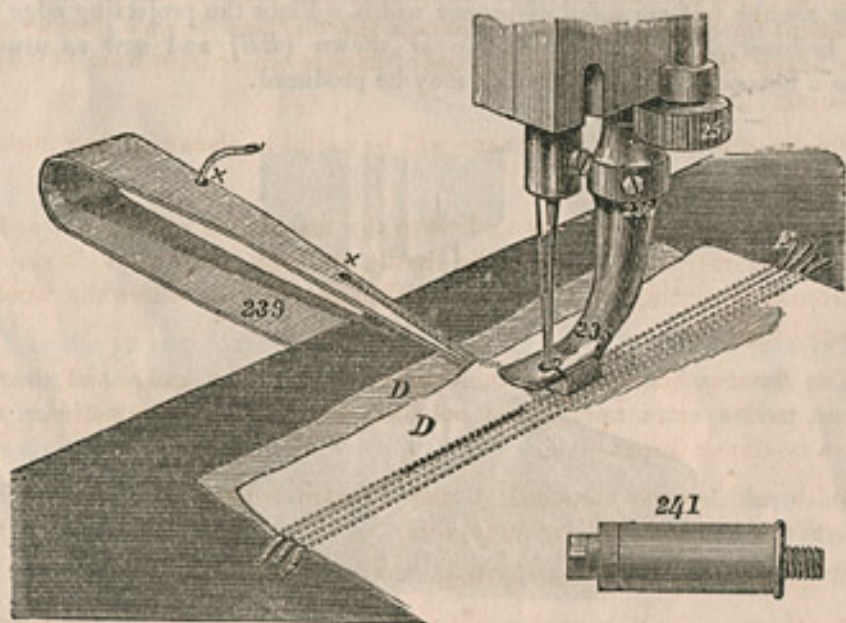
Sew a common seam, letting one edge of the cloth project beyond the other enough to form a fell of proper width. Place the projecting edge in the hemmer, letting the cloth lie as shown (BB) and sew as usual. Thus a beautiful and durable Fell may be produced.

**THE BRAIDER.**

Substitute the braider foot (229) for the presser foot, and pass the braid under braider spring (231), drawing it through the needle hole as shown at a, and sew as before. Thus any design may be wrought with the braid.

**QUILTING.**

Put the quilter bar (105) through the hole in the presser foot, as shown in the figure, and fasten it by the screw at the back side of the foot. Adjust it to right or left according to the distance required between the rows of stitches.

**CORDING.**

Fasten the corder foot (235) to the presser bar. Put the broad end of the corder (239) under the left end of the bed of the machine. You will see a screw hole about three-fourths of an inch from the left end of the bed

of the machine. Fasten the corder by screw (241) to the bed underneath, letting the small end of the corder lie about one-sixteenth of an inch directly in front of the hole in the needle plate. Pass the cord through the tension holes (x x) and through the eyelet at the end of the corder. Double the cloth over and under the corder as shown (D D), letting the end of the cord run backward, as at E.

THE MACHINE SHOULD BE KEPT CLEAN.**OILING.**

Care should be taken that the running parts of the machine do not get dry for want of oil. Only a few drops of oil are required at a time, and these should be applied more frequently to those parts having the greatest motions, such as the needle bar, the main shaft, cam rolls, shuttle driver, slide, &c. None but the best oil should be used. Pure sperm oil is excellent for Sewing Machines. Should the machine become gummy and run heavy, this will be from the use of impure oil, or from want of proper cleaning.

Spirits of turpentine or kerosene will be useful in cleaning away gummy material.

The band should be thrown off when the machine is not in use; and if it becomes too loose to drive the needle through heavy work, it may be shortened by cutting off a little, and making a new hole where the band is clasped together.

The fixtures belonging to the machine consist of a gauge and thumb-screw, twelve extra needles, six bobbins, wrench, oiler, screw-driver, and extra needle or throat plate.

With each of the step-feed, A and B, there belong, in addition to the above, one hemmer, braider and quilter.

With the step-feed C, one quilter.

Don't attempt to tinker the machine. Purchasers sometimes say, "Why, I took my machine *all to pieces*, and put it together again, soon as I got it." No worse thing could be done. The machines leave our offices in good order, and it is a great mistake to suppose that they can be bettered by being tampered with by inexperienced persons. "LET WELL ENOUGH ALONE."

The following sized Needles are suited for the following sized Threads,
&c.

For No. 100 to 300 cotton, or 000 twist.....	No. 000 needle.
" " 80 to 90 " or 00 "	" 00 "
" " 60 to 70 " or O&A "	" 0 "
" " 40 to 60 " or B "	" 1 "
" " 20 to 36 " or C "	" 2 "
" " 10 to 20 " or D&E "	" 3 "

Coarse cotton, linen or twist, No. 4 or No. 5 needle.

DIFFERENT KINDS OF NEEDLES.

1.—ROUND POINTS,

2.—TWIST POINTS,

3.—FLAT POINTS,

Needles used for cloth have round points. The other kinds of points specified are intended mostly for leather. Round point needles are also sometimes used on certain kinds of leather where strength of seam is required, as they do not cut the leather; they make a hole like that represented by dotted line No. 1.

The twist point needle is used for stitching leather when a twisted appearing stitch is desired, and cuts the material, as at 2.

The flat pointed needle is used when a *close square stitch* is required, and cuts the material as represented, (3).

THE

Howe Sewing Machines.

For some years I have been actively engaged in increasing the facilities for manufacturing my Sewing Machine, and have succeeded in organizing a most complete system, combining perfection of workmanship with the largest production at the smallest cost.

In order to obtain these results, time, labor, money, and the experience of my life as a practical mechanic have been freely contributed, and I believe, with success. Further to facilitate the manufacture and sale of my machine, "*The Howe Machine Co.*" has been organized, and the business will be carried on in the name of that Company under my supervision. The enviable reputation of my machine has induced persons to use my name in connection with machines of an inferior description, and I have, therefore, to protect myself and the public, adopted as an especial *Trade Mark* a medallion, having in the centre the profile of the inventor surrounded by the legend "*Elias Howe, Jr., Inventor and Maker, New York, U. S. A.*" This medallion is embedded in each machine, and none are the productions of "*The Howe Machine Co.*," unless they bear this distinguishing trade mark.

ELIAS HOWE, JR.,

Pres. of "*The Howe Machine Co.*"

The *Howe Sewing Machines* are celebrated for doing the best work, using a much smaller needle for the same thread than any other machine, and by the introduction of the most approved machinery, we have so increased the production of machines, and perfected the parts, that we are now able to meet all demands, and supply the very *best Machines* in the world. These Machines are made at our new and spacious Factory at Bridgeport, Conn., under the immediate supervision of the President of the Company, *Elias Howe, Jr.*, the original inventor of the Sewing Machine.

"**THE HOWE MACHINE COMPANY,**"

699 BROADWAY, NEW YORK.

