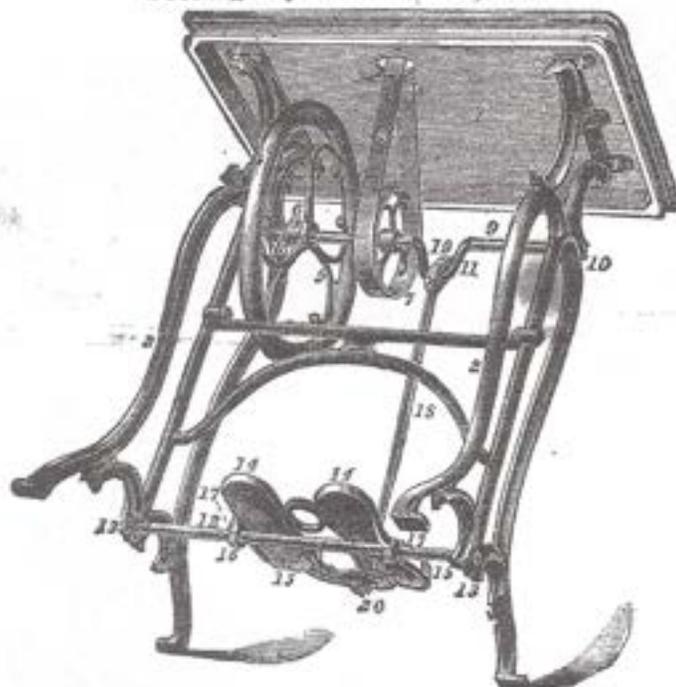


DIRECTIONS FOR USING

WHEELER & WILSON'S SEWING MACHINES.  
HIGHEST PREMIUM.



Setting up the Table, etc.

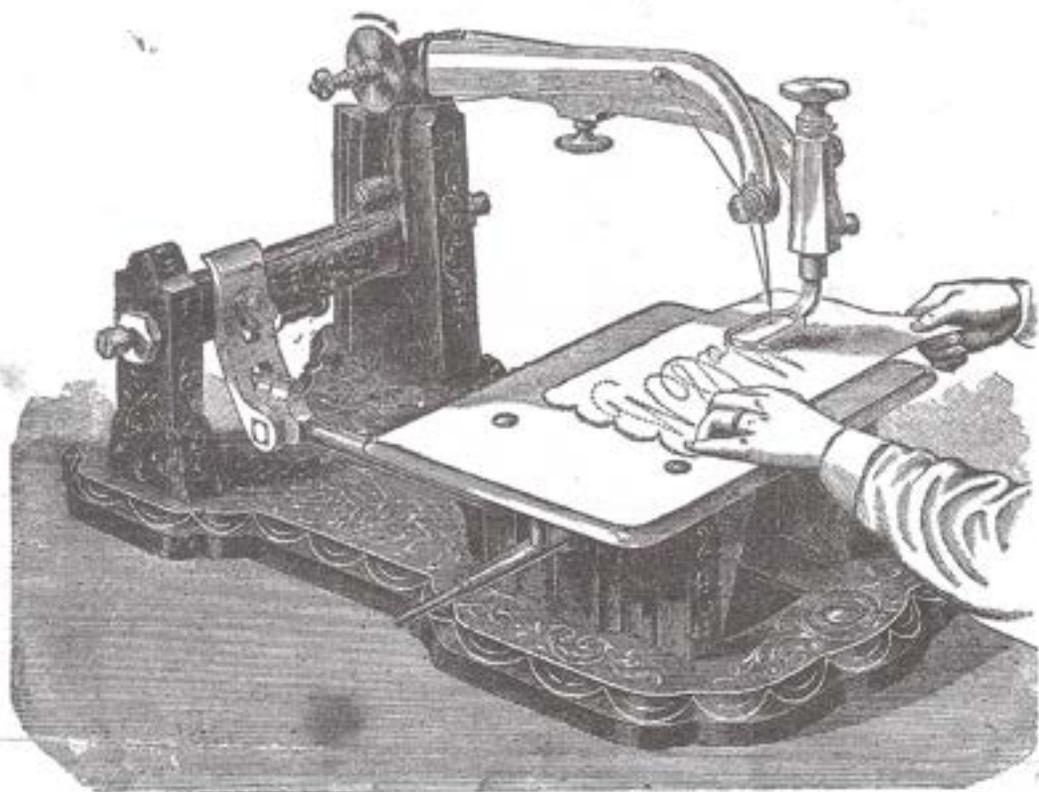


View of the Appendages beneath the Table.

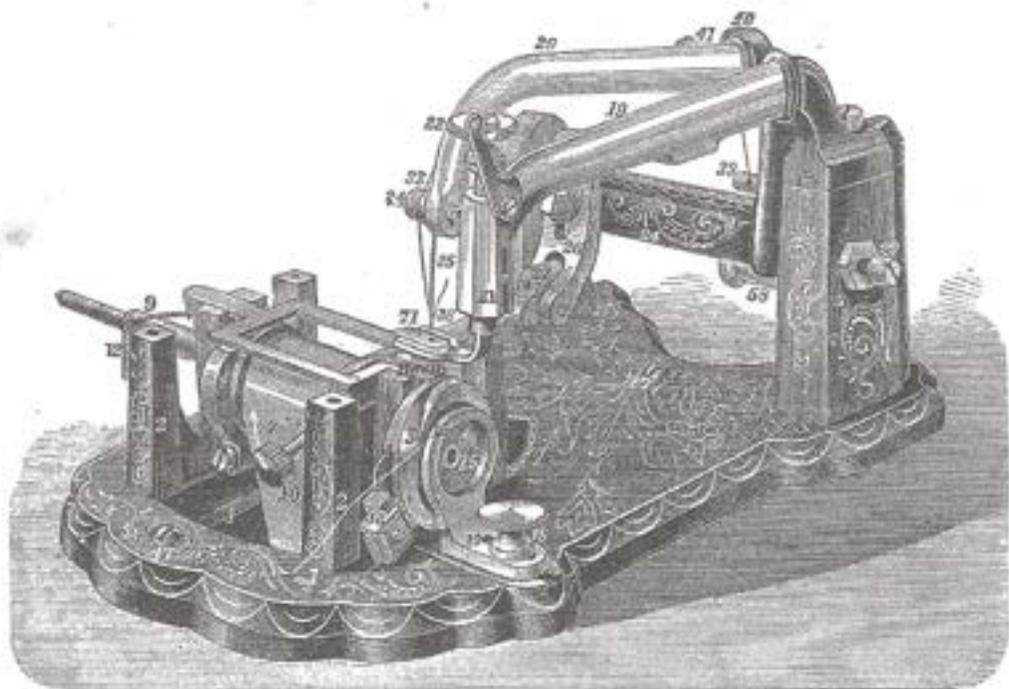
Reverse this cut before you; and reverse also the Table 1, with the holds for the Band 8, nearest you. Fasten by screws through the Flanges 4, 4, the Table Standard 2, 2, at the left hand. Place the other Standard 3, 3, at the other end of the Table, and secure it with one screw. Place the Band Wheel 7, and the Balance Wheel 5, upon the longest end of the Crank Shaft 9, with the longest part of their hubs towards the same end. Place the Band Wheel close to the Crank 11, and the Balance Wheel about one inch from the end of the Shaft, and secure them as with the Screw 6, through the hubs. Enter the Crank Shaft in its bearings 10, 10. Put the Sandal Shaft 12, through the eyes, 16, 16, of the Sandals 14, 14, securing them upon the Shaft by the pins 17, 17. Secure the Sandal Shaft in its bearings by the nuts 13, 13. Draw these nuts tight enough to hold the Crank Shaft 9, from lateral play but not to bind it. Secure the legs firmly to the Table by the remaining screws through the flanges. Attach the Pitman, 18, to the Crank 11, by the Clasp Ring 19, of the Pitman, and secure the other end at the toes of the Sandals, by the pin 20. Set the Table upright. Put a drop of Oil daily upon each of the following points: 10, 10; 16, 16; 19; 20.

Secure the Machine to the Table by Screws through the screw-holes 47, 47.

View of the Machine ready for Work.



View of the Machine with the Cloth Plate Removed.



### Preparing the Machine for Work.

Raise the Needle Arm 29 to its highest point. Raise Cloth Presser 20, by lifting the handle of lever 23. Take out the four screws which fasten the Cloth Plate 46, and slide off the Cloth Plate carefully.

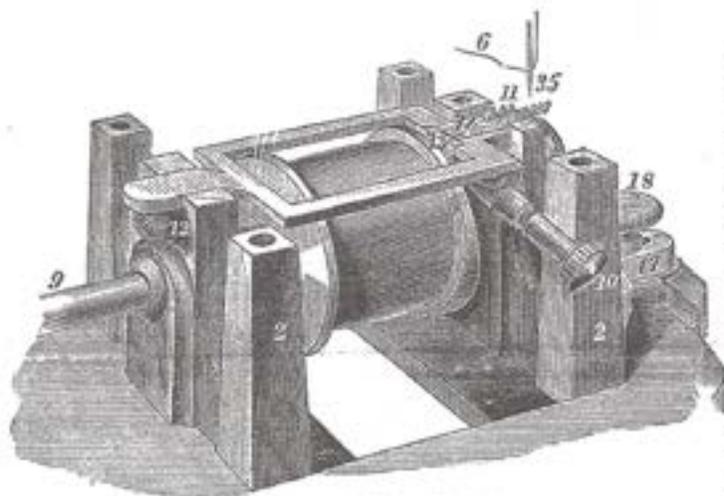
Loosen Thumb Screw 18. Pull back Ring Slide 17. Take out Bobbin 15. Put a drop or two of oil in all the oil holes, and on parts which rub against each other. Cut



**Lacing the Band.**

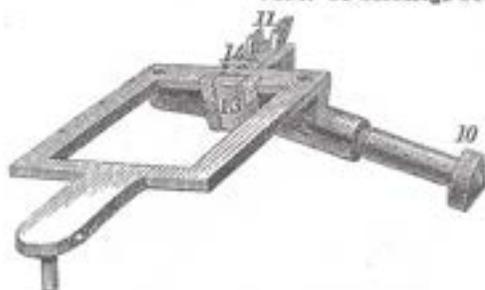
Pierce each end with four holes. Lace the ends together with a small, strong cord, as shown in Cut. Be careful not to make the belt any thicker by lacing. The belt must fit tightly. After a few days' wear the belt will stretch, and it must then be tightened.

the ends of the Band 7 evenly. Pass the Band around the Band-Wheel below, bringing it up through the holes above the table and around the leather-covered pulley. Draw the ends of the belt together, and see that it will fit tightly without lapping. If too long, cut a piece off.



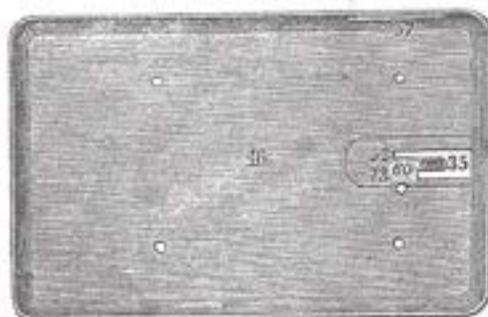
**View of Silent Feed.**

The work is moved forward under the needle by the teeth 11 of the feed, which are shown in the Cut. At each revolution of the leather covered pulley, the teeth are pushed forward above the face of the Cloth Plate, carrying the work ahead of the needle the distance required for each stitch. If a short stitch is required, turn the screw 10 from above, towards



the right hand; if a long stitch, turn the screw in the same manner toward the left. If the feed requires cleaning, lift it out of the recess. Wipe all the parts clean, and set the feed back in place.

**Draw Feed Points.**

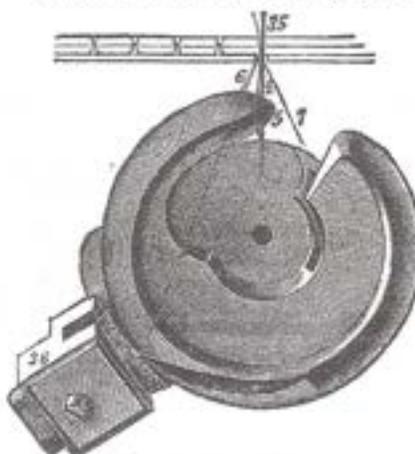


**View of the Cloth Plate, Reversed.**

Two Plate Slides 35 are furnished with each Machine—one with a small hole 60 for fine, and the other with a larger hole for coarse work. These Plates can be changed at will, when the Cloth Plate is secured to the standards, by removing the Screw at the side of the slide, and drawing it out with the point on the needle wrench. The slide must always be carefully pushed up in the grooves in the Cloth Plate.

### The Rotating Hook, etc.

The Needle.



The Needle-Wrench.



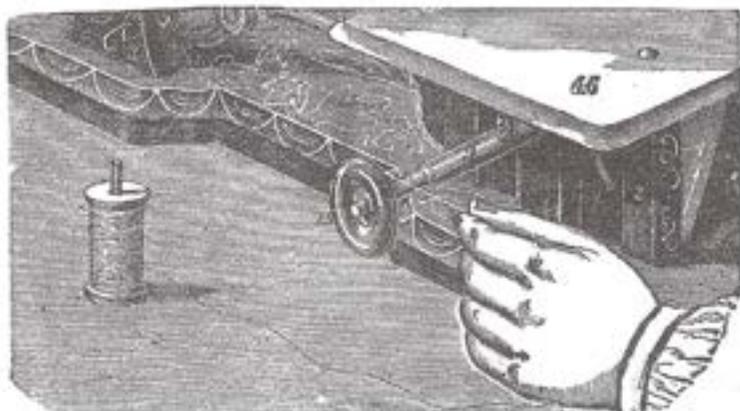
The point on the needle wrench is used for drawing out the plate slides (35), and the glasses and hemmer from the cloth presser.

### Setting the Needle.

(5, the Rotating Hook ; 4, the Needle ; 3, the Loop Check ; 5, the point of the Hook ; 6, the Upper Thread ; and 7, the Lower Thread.) Set the Needle 4, with its eye ranging in the Needle Yoke 34, with its eye ranging from left to right, and the convex of its curve towards the front of the Machine. Secure it by screwing up the nut on the right of the Needle Yoke (use for this purpose the Needle Wrench). Set the Needle so that in its descent it will pass through the centre of the Needle Hole 60, and pass as close as possible to the left of the point 5, of the Rotating Hook, without touching it ; and its eye about one-sixth of an inch below the point of the Hook, or so that it will be on a level with the shield or back part of the hook as the points of the hook reaches the needle to enter the centre of the loop of thread formed at the right side of the Needle in its rise.

The Brush Loop-Check 3, should press snugly upon the circumference of the Rotating Hook 5, but not in the chamfered part. Should this Loop-Check become worn so as not to check the Loop of thread, adjust it by turning the Screw 2.

### Spooling the Thread and Threading the Machine.



Wind the Lower Thread upon the metallic Bobbin 15, by placing it upon the Spool Spindle 9, and the spool of the thread upon the Spool Pin, and work the treadles as when sewing. (Use the Under Thread slightly finer than the Upper: if No. 70 Thread is used for the Upper, 80 will be the proper number for the Lower. The Upper Thread should be smooth, and well twisted, and adapted to the size of the needle.) While spooling, raise the Cloth Presser 20, by drawing the Lever 23, forward. Place the Spool 38, upon the Spindle, near the base of the Standard 3. Pass the thread over the Rocker 24, through the Thread Guide 39, once around the Tension Pulley 40, and thence through the Eyelets 33, 33, and the Needle Eye 35, from left to right, and draw it through four or five inches to the right, and behind the Cloth Presser 20. Place the Bobbin 15, in the cavity of the Hook 5, with

the thread flowing from its top towards the front of the Machine. Place at its right, the Ring 16, upon the Slide Bar 17, close to it, and secure this bar by the Thumb Screw 18. Draw the end of the Lower Thread forward between the Hook 5, and the Bobbin Ring 16, and leave it in the Thread Hold 57, until two or three stitches have been taken.

The following index denotes the No. of Thread suited to the different sizes of Needles.

Nos. of Needles,	5 & 4	3½	3	2½	2	1	0
Nos. of Thread,	10 to 20	20 to 30	30 to 40	50 to 60	60 to 70	80 to 90	100 to 120
Nos. of Silk,		E.	U. D.	A. B.	60 & 0	000	
Fabrics, etc.,	Overcoats, Kerseys and Felts.	H'vy Coats, Bagging and Pants.	Cloak Making, Tailoring & Coarser Fabrics.	Boys' Clothing, Quilting & Dress Making.	Fine Shirts, and Ladies' Under Clothing.	Handkerchiefs, Collars and Bosoms.	Nansook, Stripes, Fine Linens, and Cambrics.

The No. of the needle is marked in small figures upon its shank, that is the flattened part of it.

### Operating the Machine.

Be seated before the Machine, with the feet upon the sandals, and the toes under the leather straps. Untread the Machine by removing the Bobbin 15, and the thread from the needle, and raise the Cloth Presser 20. Learn first the motion of the feet. Start the Machine by raising or depressing the toes, or if necessary turn the Balance Wheel 5, with the hand to assist. Never turn backwards, but move the hand always in the direction indicated by the arrow upon it. Continue this motion pressing gently with the heels and the toes until a slow or rapid motion can be produced at pleasure.

To SKW.—Place the Cloth 45, beneath the Needle and the Cloth Presser 20. Let this Presser drop upon it, and hold the end of the Upper Thread, or of both, loosely between the thumb and forefinger of the right hand, until two or three stitches have been taken; then release the ends of both threads. Place the forefingers of the left hand gently upon the work, and hold with the thumb and fingers of the right hand. Do not pull with the right hand nor hold back with the left, as by so doing the needle is likely to be broken, and the stitches made irregular. Hold the cloth smooth.

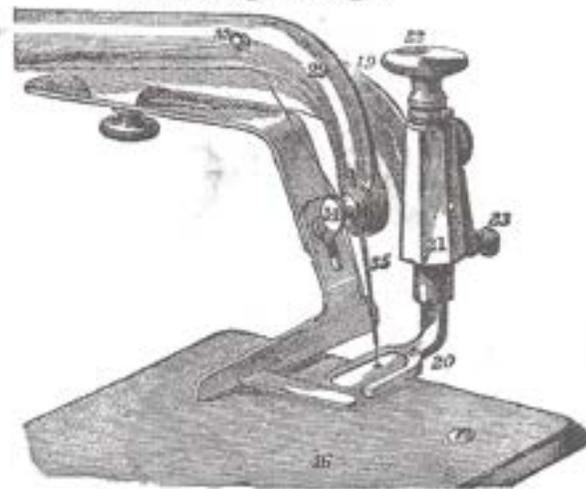
THE TENSION, is regulated by the nut at the end of the Volute Spring 41. The point of interlocking of the two threads should be in the centre of the fabric, and show both sides of the seam alike. If the Lower Thread lies upon the lower surface, the Tension is too light; increase it by turning the nut forward in the direction indicated by the arrows. If the work puckers, or the Upper Thread lies upon the upper surface, the Tension is too great; diminish it by turning the nut backwards. Thick work requires a heavier Tension and longer stitch than thin.

To GATHER, make a long stitch with a loose tension; gather by drawing up the Upper Thread.

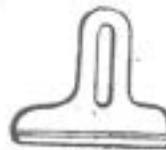
### To Regulate the Stitch.

The Machine feeds the cloth through itself; the operator guides it. To make a short stitch, turn the Thumb Screw 10, over and toward the right hand. To make a long stitch, turn the Thumb Screw over and toward the left hand.

### The Large Gauge.



### The Small Gauge.



For Nos. 1, 2, and 4 Machine.

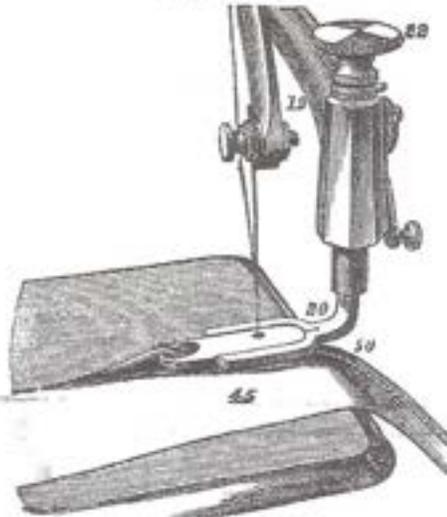
To use the large Gauge, attach it to the fixed Arm 19, by the Thumb Screw, and let it extend down over the Cloth Plate, and adjust it according to the width of the seam desired. To use the small Gauge, attach it to the Screw Hole 44, using the Thumb Screw. The two Gauges are not used in conjunction.

#### Oiling.

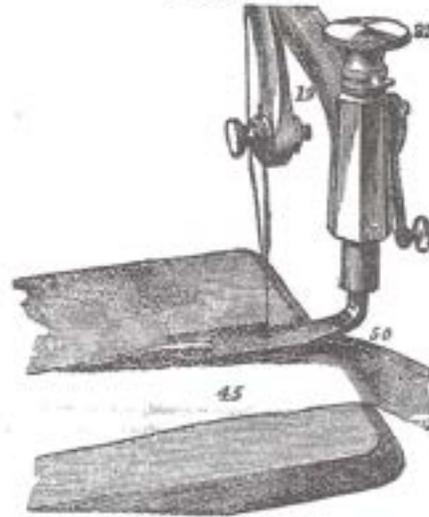
Remove the Cloth Plate daily when the Machine is in use; clean well about the Rotating Hook, the Feed 13, and the face of the Cam against which the Feed strikes. Put a drop of oil on each of the following points: the Arbor 4, at its bearings in each Standard 2, 2; the Cam 6; the Eccentric Ring 8; the Feed 13; and on the face of the Cam against which the Feed works; on the bearings of the Feed in Standard 2; the Cloth Presser Piston above 21; the Pivots 25, 25, at each end of the Rocker 24; the Hinge 27; the Feed Stop 54.

#### Hemmers.

New Style.



Old Style.



To adjust the New Style Hemmer, remove the Glass 71, in the Cloth Presser 20, using for this purpose the Wire Hook, and substitute the Hemmer 70. To adjust the Old Style Hemmer, remove the Cloth Presser 20, by unscrewing the Screw 22, and loosening the Fixed Arm 19, by starting out the screw by which it is fastened to the Standard 3. Put the Hemmer 48, in place of the Cloth Presser 20. Secure it by the Thumb Screw 22, and fasten the Arm 19, again to the Standard 3. Use the light Cloth Presser Spring for hemming and light work.

#### To Hem with the Hemmer.

To make a narrow Hem 50, roll the corners of the Cloth slightly; enter it into the convolution of the Hemmer, and draw it along to the Needle. The Hem is then turned, and stitched as in ordinary sewing. To make a wide Hem, fold the Cloth the width of the Hem, and pass the edge through the Hemmer. To FELL, seam up the two edges, one a little lower than the other; open the Cloth, and fell the edges with the Hemmer.

#### General Directions.

Set the needle properly; keep the machine clean and well oiled, and the Loop Check in proper order, according to directions. Do not make too short a stitch. If the upper thread breaks, it is owing to one of three causes:—

1st, the Tension, or friction, is too great on the upper thread.

2d, the Loop Check is worn so as not to hold the loop which is passing over the lower spool until the point of the Hook takes hold of the succeeding loop on the Needle.

3d, the Metal Spool has become roughened on the edge, and wears off the thread in passing over it.

If the thread hangs in loops on the under side of the work, increase the tension on the upper thread sufficiently to draw the lower thread up into the goods. Should the thread break by increasing the tension on the upper thread, and still not make a perfect stitch on

the under side, examine the lower spool, and see if there is any roughness on it, or on the hook, so as to prevent the thread from passing freely over it. If the thread should break in the under Spool, the end can be found with the Thread Hook.



Never use a pin, needle or scissors for this purpose or mar the edges of the Spool or Hook.

The machines are adjusted for all the usual kinds of sewing, and for the ordinary sizes of threads; and there is no need of making changes to secure a perfect operation of the Machine

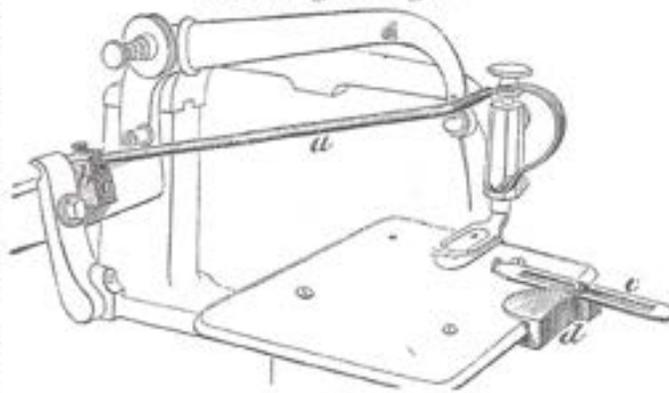
#### Extras.

TUCKING GAUGE	\$2.00
CORDER	3.00
BINDER	5.00
BUTTON HOLE ATTACH'T.	25.00
ADJUSTABLE HEMMER	3.00

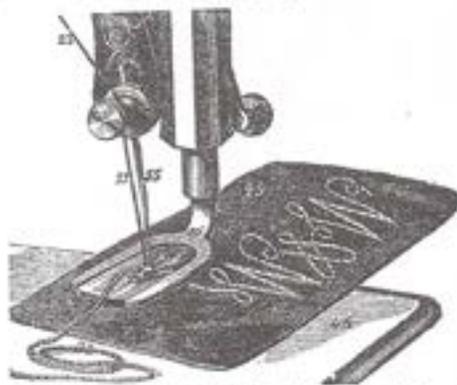
Attach the Clamp *b* to the Rocker 24, by its screw, with the arm *a* extending forward of the cloth presser 20. Attach the Gauge Clamp *d* to the front of the Cloth Plate 46, by its thumb screw on the under side. Adjust the slide *c* at the required distance from the needle for the width of the tuck. Adjust the arm *a* so that its shot shall come exactly and squarely over the point of the gauge *c*, and fasten it by its screws on the top of the Rocker Clamp.

Fold the first tuck, and the next tuck will be creased in the process of stitching the first, and so on. The Tucking Gauge is used with either of the stitching gauges sent with the machine.

#### Tucking Gauge.



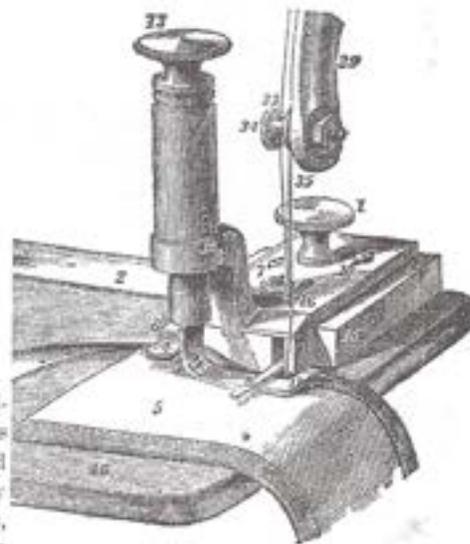
#### Braider.



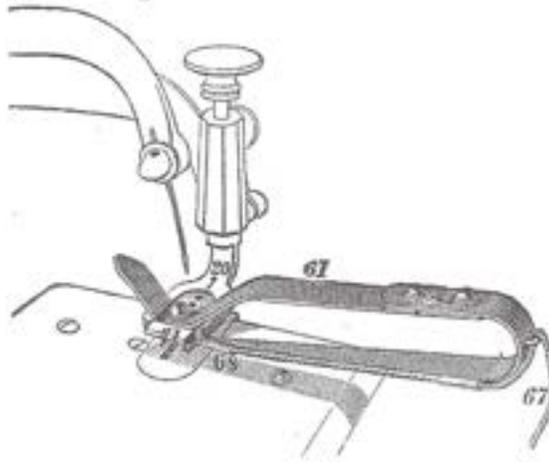
Substitute The Braider Glass for the ordinary Glass 71, in the Cloth Presser 20. Pass the braid or cord through the hole 73, and stitch it upon the fabric 45, as in the ordinary process of sewing. TO ATTACH THE BINDER, remove the Fixed Arm 19, and attach the

Binder to the Cloth Plate 46, at the Screw Hole 44, by the Thumb Screw 1, and brace it by 2. Raise the Presser 12, by the Thumb Screw 13, and turn it out, so that the pin may rest upon the Niche 14. The binding is folded and entered through the Guide 4, along the edge of the Fabric 5, with the upper edge in the Guide 6, adjusted by the Screw 7, and the lower edge in a corresponding Guide below, adjusted by the Screw 8, and also through the Guide upon the Spring 9, which is adjusted by the Screw 10; drop the Presser 12, and proceed as in ordinary stitching. The Needle 35, passes half way between the Spring 9, and the Presser Point 11. The Binder is adjusted to the various widths of bindings

#### Binder.



by moving backward or forward 15, which is held by the Screw 16. More or less binding can be thrown upon the upper or the lower side of the fabric, by properly adjusting the various guides.

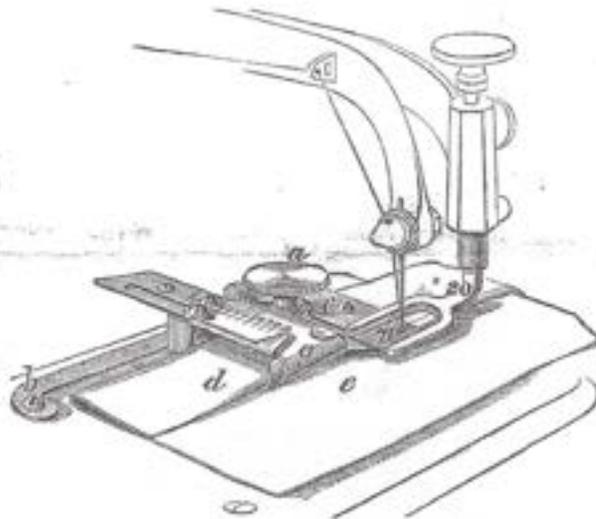


### Corder.

Insert the slide 71, of the Corder, 61, in the slot of the Presser, so that the Cord will be delivered from the end of the Tube 68, in a direct line with the groove in the slide 71, nearest the needle. Pass the Cord 67 through the guides upon the Corder, and through the Tube 68, and draw it through far enough to hold in the fingers. Place the fabric so that the Tube 68 shall be between the folds where the Cord is to be laid, and stitch as usual.

### Adjustable Hemmer.

Attach the Adjustable Hemmer to the plate by the screws at the points *a* and *b*, as shown in the engraving. Take out the glass 71, so that the Presser 20 will rest upon the Spring *c*. Fold the materials as *d*, *e*, and hem as with the ordinary Hemmer. To make a wide hem, loosen the Screw *f*, and draw out the graduated Slide, the required distance.



### Accompanying Articles.

#### The Oil Can.

#### Screw Driver.



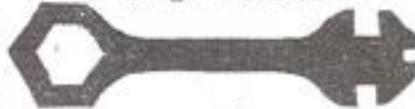
Builder's Glass, with Nos. 1, 2 and 5  
Machines,

Hone,

Needle Wrench,

Thread Hook,

#### Large Wrench.



Heavy Spring,

Hemmer,

Dozen Needles,

Four Metal Spools,

Quilting and Tucking Gauges.



The Oil Can is filled by unscrewing it near its centre; and Oil is ejected from its nozzle by pressing on its spring bottom. Use pure Sperm Oil, or Machine Oil of the best quality.

DIRECTIONS  
FOR USING  
WHEELER & WILSON'S



Family Sewing Machines.

WHEELER & WILSON M'F'G CO.

PRINCIPAL OFFICES:

No. 44, 14th Street, New York.

AND BRIDGEPORT, CONN.

OFFICE, 820 MAIN ST.

DUBUQUE.

C. B. GOLDWOOD, Agent.

These directions should be carefully studied and followed by persons learning to operate.

Any failure on the part of Agents to give instructions, if reported to us, will receive prompt attention.

Allow no person interested in the sale of other Sewing Machines to handle the Machine in any manner whatever. Allow the Machine to be adjusted or repaired by no one but an authorized Agent, or at our Office.

If the Machine needs repairing, take it off the table (by taking out the screws at front and back of the Machine, and cutting the lacing of the belt), enclose it, with the *ring slide*, *hemmer* and *bobblns*, in a small box, with the name and address of the owner written plainly and tied to it, and send it by Express to some agency or office for the sale of our machines, and it will be put in order and promptly returned.

(See 3d page of cover.)

## NEEDLES AND THREAD.

Genuine WHEELER & WILSON needles are marked *W. & W. Mfg. Co.*, all others are imitations. We cannot warrant machines to work well when counterfeit needles are used.

Needles are numbered on the flat side.

Buy good cotton and silk. You cannot make a smooth even stitch with poor, rough thread.

### SIZES OF NEEDLES AND THREAD TO BE USED.

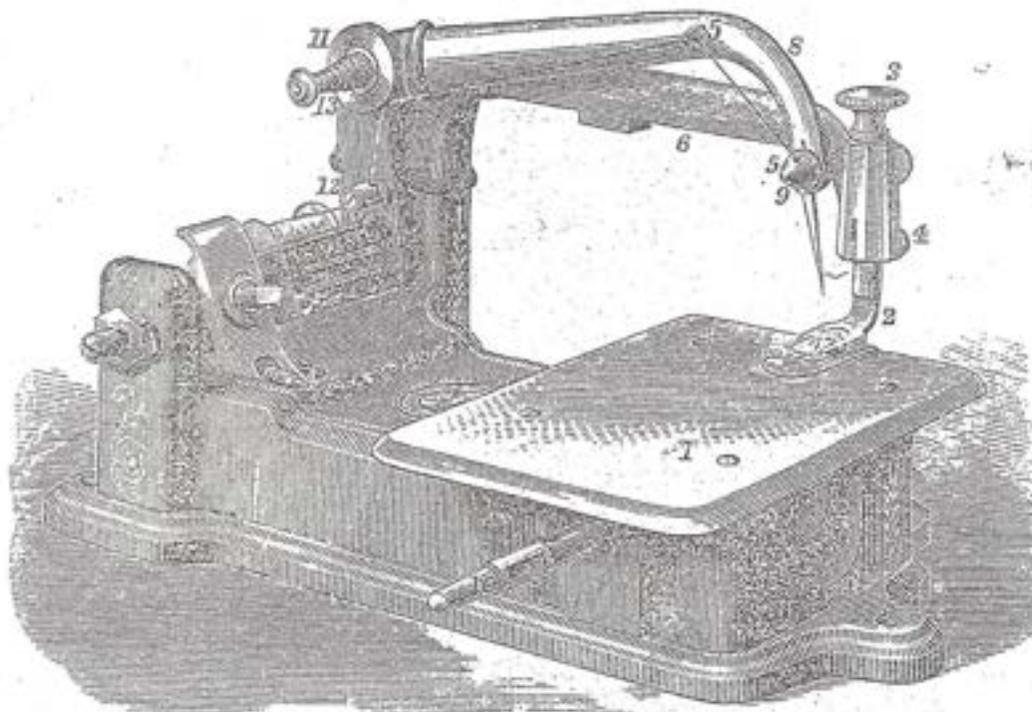
SIZE OF NEEDLE.	FOR	SIZE OF COTTON.
0	} Undressed Nainsook and Jaconet Tucking..... } Fine Linen Bosoms.....	90 to 150 80 to 100
1	} Swiss Muslin, Collars, Lawns, Handkerchiefs and Fine } Muslins.....	80 to 90
2	} Muslin, Calico, De aine, &c..... } Shirting, Sheeting and Under Clothing..	60 to 80 60 to 70
2½	} Quilting and Boys' thin Clothing..... } Lace, Tulle and Barege.....	40 to 50 100 to 150
3	} Cassimere Coats, Pants and Vests..... } Flannel.....	90 to 50 40 to 70
3½	Coarse and Heavy Cloth.....	} 24 to 40 Cotton. } 60 to 80 Linen.

### IN SEWING WITH SILK TWIST USE

FOR	SILK
1 Fine Silk Goods.....	000
2 Dress Waists, Cloaks and Fine Cloth.....	00 to 0
2½ Boys' Fine Clothing.....	0 to A
3 Cassimere Coats, Pants and Vests.....	A to B
3½ Overcoats and Heavy Cloth ..	B to C

Use the fine-plate slide with number 0, 1, 2, and 2½ needles.  
Use the coarse plate slide with number 3, 3½ and 4 needles.

**The Heavy Spring** is used to obtain more pressure in sewing thick or hard goods, and is inserted in the place of the lighter one surrounding the cloth-presser piston in the fixed arm.



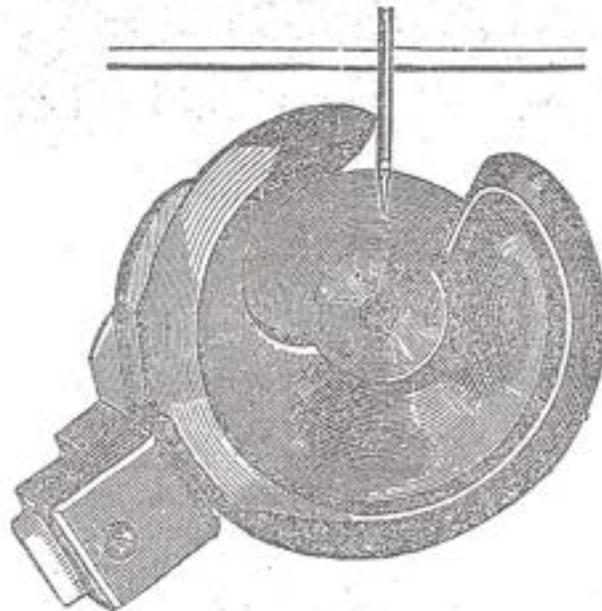
- |                         |                |                    |
|-------------------------|----------------|--------------------|
| 1 Cloth Plate.          | 6 Fixed Arm,   | 10 Spindle.        |
| 2 Cloth Presser.        | 7 Glass Foot.  | 11 Tension Pulley. |
| 3 Cloth Presser Knob.   | 8 Needle Arm.  | 12 Thread Guide.   |
| 4 Cloth Presser Lifter. | 9 Needle Yoke. | 13 Volute Spring.  |
| 5 Eyelets               |                |                    |

ALWAYS TURN THE BALANCE WHEEL OVER FROM YOU.

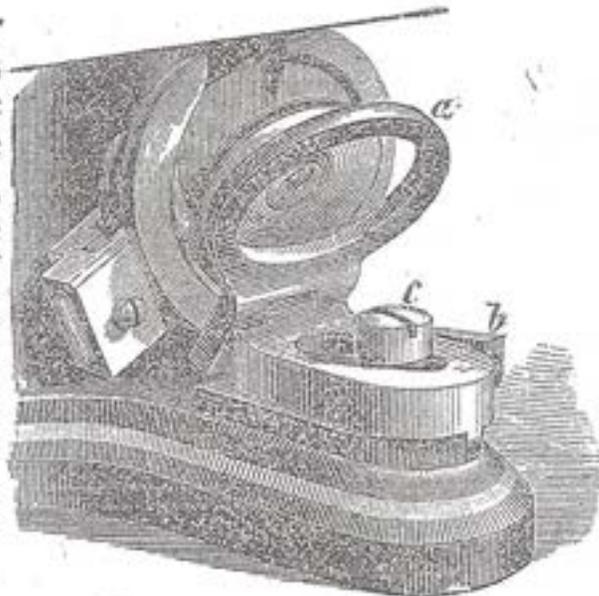
**Set the Needle** with the flat side to the left. The eye of the needle should be level with the top of the back part of the hook, when the point of the hook has just reached the needle, as in the cut. See that the needle runs perfectly true through the center of the needle-hole in the plate; if it does not, bend it until it does.

The point of the Needle should enter the Needle-hole in the same place that the shank of the Needle occupies when the Needle is at the lowest point.

**To fill the Bobbin.** Raise the cloth-presser and unthread the needle. Place the bobbin on the spindle and the spool of thread on the spool-pin; wrap the end of the thread round once or twice in the bobbin to fasten it; then work the treadle. Hold the thread only moderately tight, that it may not run too tightly into the bobbin.



**To place the Bobbin.** Press the Lever, (b) and turn back the drop (a). Place the bobbin upon the drop, with its lower edge within the cavity of the rotating hook, as shown in the cut, and the thread winding from the top of the bobbin toward you. Turn up the drop till secured by the catch.



**To thread the machine.** Place a spool of thread on the wire at the back of the machine; pass the thread through the thread-guide, pressing it as far back as possible, then upward in front of the tension pulley, around the pulley once, then through the eyelets in the needle arm, and through the needle eye about five inches.

**To Sew.** Turn the balance wheel over from you until the needle goes down and up once, pass the screw-driver (or other article) between the presser and plate pulling out the thread. Place the cloth beneath the presser; lower the presser, and start the balance wheel over from you with the left hand. Then place the left hand gently on the work to guide it. Do not pull nor hold back the work. Stop exactly at the end of the seam. Do not turn the machine after the cloth has passed the needle.

**To take out the work.** Turn the machine until the needle is at its highest point; loosen the thread between the eyelet and the tension; raise the cloth presser, and pull out the work, cut the upper thread close to the cloth, then cut the under thread. This leaves the threads in proper position for starting again.

**The Tension** should draw the under thread up into the center of the goods, but never any higher. It is regulated by the nut at the end of the volute spring. If the lower thread lies along on the underside of the cloth, or loops are left, the tension is not light enough and the nut should be turned forward. If the work puckers, or the thread lies straight upon the upper side of the cloth, the tension is too tight and the nut should be turned backward.

**Length of Stitch.** For a short stitch move the lever under the left end of the plate toward you, for a long one move the lever from you. Have a long stitch when sewing soft woolen or thick goods.

### OILING THE MACHINE.

Use the best Sperm Oil, to be had of our Agents, and at our offices.

The machine should be Oiled once a day, when in use.

Remove the Needle and the Cloth Plate.

Turn machine till narrow part of Cam is on top, and remove the Feed Motion and clean it.

Clean well about the Rotating Hook.

Then put a drop of oil—1st, in the oil holes at each end of the Rotating Hook Shaft.

2. On the right side, and small part of the Cam.

3. In the oil hole in the connection to the left of the Cam.

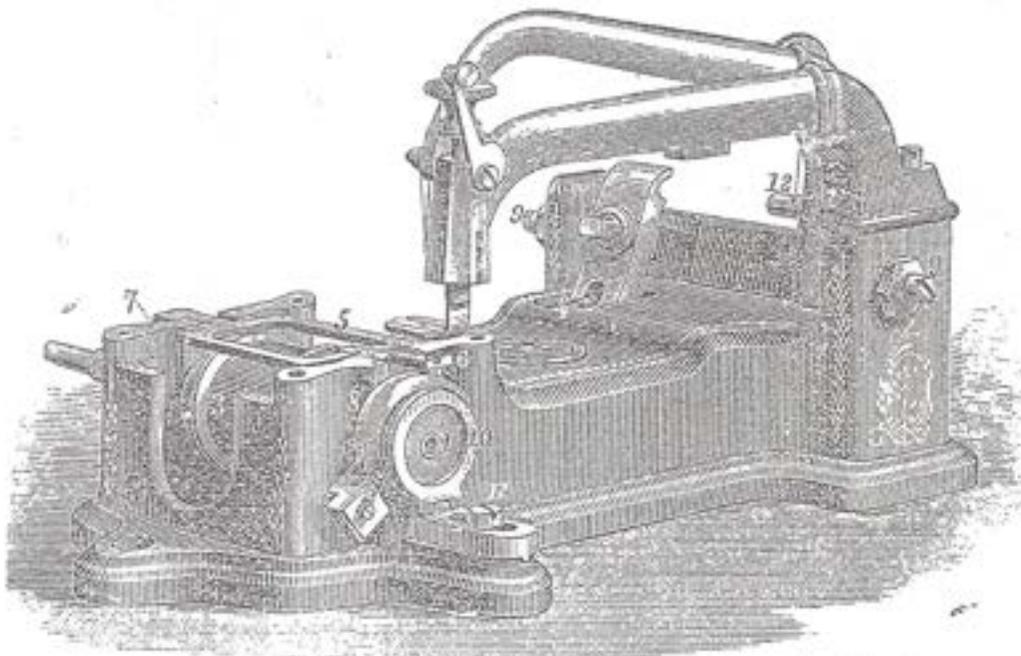
4. On top of the Cloth-Presser piston where it passes through the fixed arm.

5. On the Steel Tongue under the feed point, and on the side of the bar between this and the feed point.

6. In the oil holes at each end of the back part of the Needle Arm, over the points of the side screws.

7. In the Slot at the rear end of the connection.

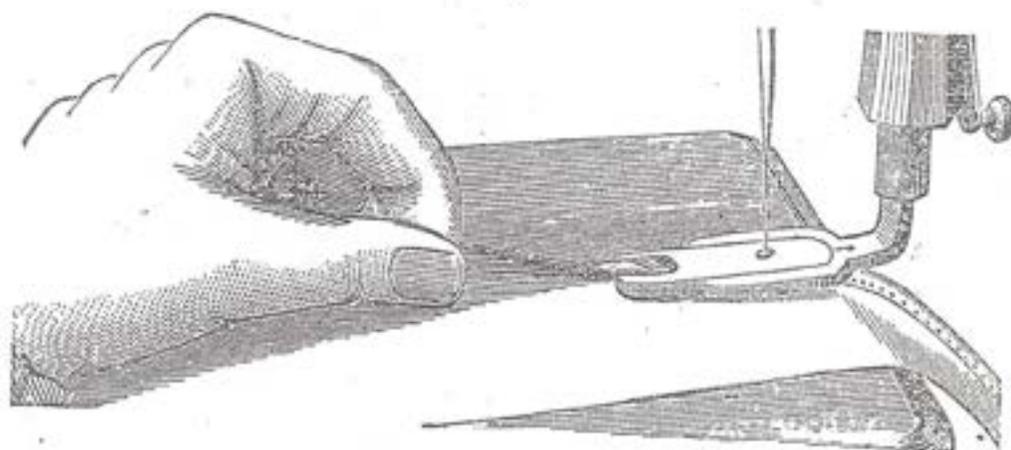
8. In the oil holes of the Treadle, each end of the Wooden Pitman, and in the oil holes over both ends of the Balance Wheel Shaft.



1 Bobbin.  
2 Brush Pad.  
3 Cam.  
4 Connection.

5 Feed bar.  
6 Feed Point.  
7 Feed Spring.

8 Rotating Hook.  
9 Side Screws.  
10 Bobbin Holder.  
11 Bobbin Holder Screw



**To Hem.** Take out the Glass-foot (with the needle wrench) and substitute the hemmer. Fold the hem for about half an inch, and insert it in the hemmer far enough for the needle to catch the hem. The edge of the cloth should pass completely around the scroll as in the above cut. If the hemmer does not turn the edge of the goods completely under, but leaves a raw edge, turn the edge in the left hand a little towards you. If too much is turned in, turn it from you. To hem bias worsted goods, hold them stretched.

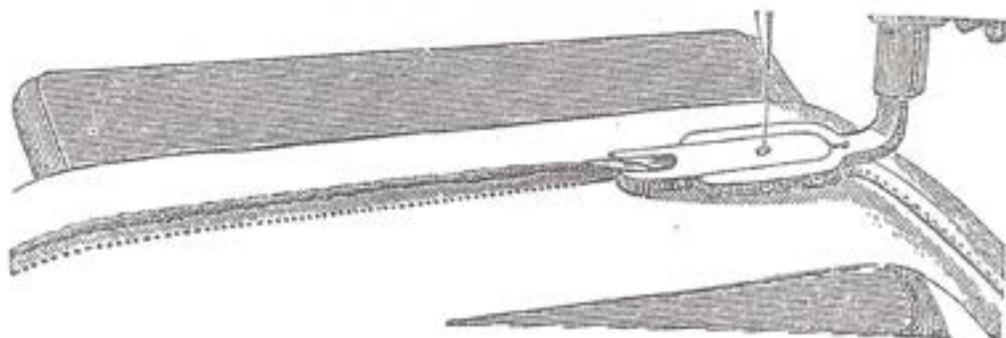
If the needle is bent, so that it does not catch the edge of the hem, spring it *from* you. If it strikes too far from the edge and into the center of the hem, spring it *to* you.

To make a wide hem, fold the cloth (once only) the width of the required hem. Pass the edge into the hemmer, as in making a narrow hem, the extra width extending back from the hemmer.

To fell, sew up the two edges, the lower extending about an eighth of an inch beyond the upper. A good rule is to have the hemmer in the cloth-presser, and have the edge of the lower piece of cloth pass exactly under the farther edge of the hemmer, and the edge of the upper piece pass under the opening in the hemmer.

Nearly the whole secret of felling is in sewing this seam.

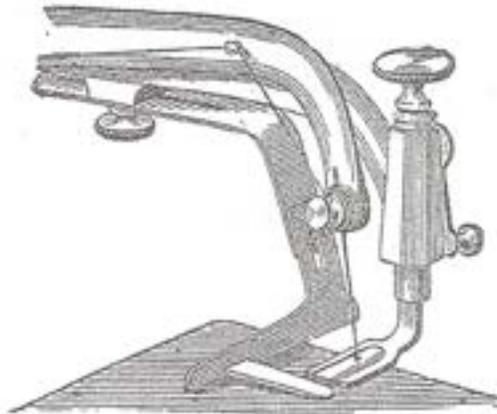
Then open the goods well, and fell down the projecting edges with the hemmer, as in the cut below.



**The Large Gauge** is used for wide tucking, quilting, and plaiting shirt bosoms. It is fastened by the Thumb-screw to the under side of the Stationary Arm, as in the cut, and can be moved forward or backward, according to the width of tuck or plait desired.

To adjust the Gauge for quilting loosen the screw which connects the parts, and raise the lower part to allow the goods to pass between it and the Cloth-plate; then tighten the Screw.

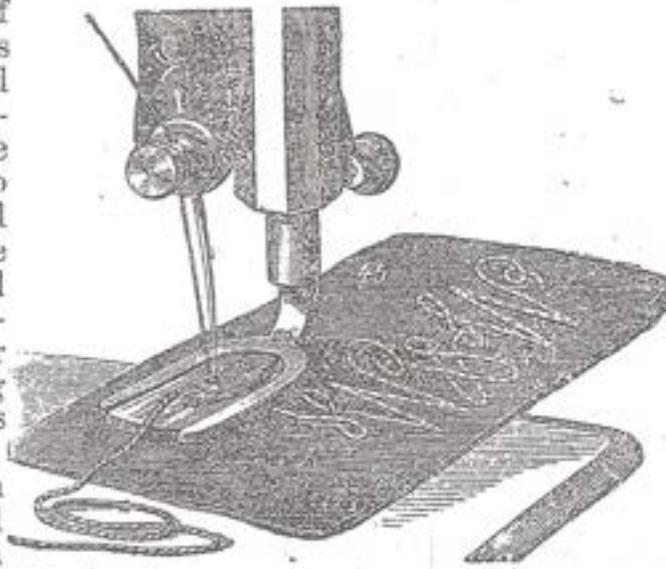
The last seam sewed should pass directly under the Gauge, and the next seam will be parallel with it.



**The Plate Gauge**, for sewing close to an edge, or for tucking, is screwed to the Cloth-plate, using the Thumb-screw. For sewing a very narrow seam or tuck, use the glass with the under side cut away.

**The Braider** is of glass, with two holes in it, one for the braid the other for the needle and fits in the cloth presser. To braid, pass the braid through the left hole in the braider, and draw the end out under the cloth-presser to the right, being careful to have it pass under the needle.

After the first stitch is taken the braid will be drawn through with the goods by the feed point.



**The Glass Corder** is a glass foot with grooves on the under side. Insert the cord between the folds of the goods, and crease it close to the edge with the needle-wrench or scissors. Place the goods under the Cloth-presser, with the cord in the groove nearest the operator, and stitch as usual. If the cord is held straight it is more easily placed close to the edge.

## GENERAL DIRECTIONS.

**Sharpen Needles** by grinding them with the emery wheel, placed on the spindle. Have the cloth-presser raised, the needle unthreaded, and the bobbin removed. Make the point round, long and tapering, not short and blunt.

**Use the Thread Hook** to get the end of the thread out of the bobbin, or blow it out; never use a pin, needle, or scissors, nor mar the edge of the bobbin.

**Never** allow the bobbins to get rusty.

**Never** oil the tension pulley.

**Never** turn the various screws in the machine, except as herein directed.

**Ordinary Seams** are easily crossed. If very thick, go slowly; and if the work is retarded, push it under the presser, when the needle is out of the goods, so that all the stitches will be of equal length.

Hard and lime dressed goods and stiff brilliants are sewed better after being rubbed with white soap, where the seam is to be, or by using the thread oiler, or after being washed.

### Why the Thread Breaks.

When the tension is too tight.

When the needle is not set right, or is too small for the thread.

When the bobbin or hook have been scratched.

The most frequent cause of silk or thread being chafed or frayed off, when the tension is not too tight, is that the needle is too fine.

Clean out the thread guide occasionally with the thread hook, removing all lint, dirt or knots of thread.

**Skipping Stitches.** This may occur when the needle is too high; or when the point is blunted; or with lime dressed goods, which need soaping, or the use of the thread oiler; or if the needle does not pass perfectly true through the needle-hole in the cloth plate.

**If the Machine does Not Feed the Cloth,** the stitch is too short, or the feed points need cleaning. If the feed motion is worn so that it does not rise the proper height, it may be raised by turning down the left screw on the feed point. It should lift the hemmer off the plate the thickness of a card only.

**Heavy Work.** To sew heavy work, put in the coarse plate slide and use a coarse needle, and the heavy spring, if necessary. For size of needle and thread see first page. Heavy work needs a *tight tension* and *long stitch*.

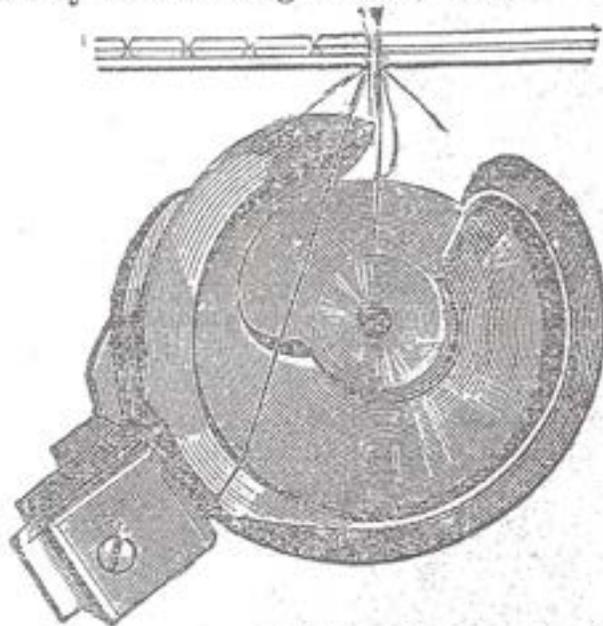
**If the Band Slips,** and does not force the needle through the cloth, it needs tightening, which can be done by cutting off a small piece and lacing it again. Cut the end perfectly square.

**To Gather.** Put No. 24 thread in the bobbin, make a long stitch with a moderately loose tension and gather by drawing the under thread.

If a very elastic bias seam is desired, keep the goods well stretched while sewing.

**To Turn a Corner** let the needle raise half way out of the goods, draw up the thread, taking hold of it just back of the eyelet, and being careful *not* to pull any thread from the tension pulley; raise the cloth presser and turn the work, the needle acting as a pivot; let down the cloth presser and proceed. Or, raise the cloth presser and turn the goods when the point of the needle in going down has just reached the top of the glass.

**The Brush Pad** is to detain one loop until the point of the hook has entered the next. It should press snugly against the outer edge of the rotating hook, but should not be forced against it sufficiently to divide the bristles, as it will then detain the thread too long, and cause it to break. It should never be moved unless worn away until it does not touch the hook, in which case it may be moved against the hook.



Needles sent by Mail for 50c. per dozen.

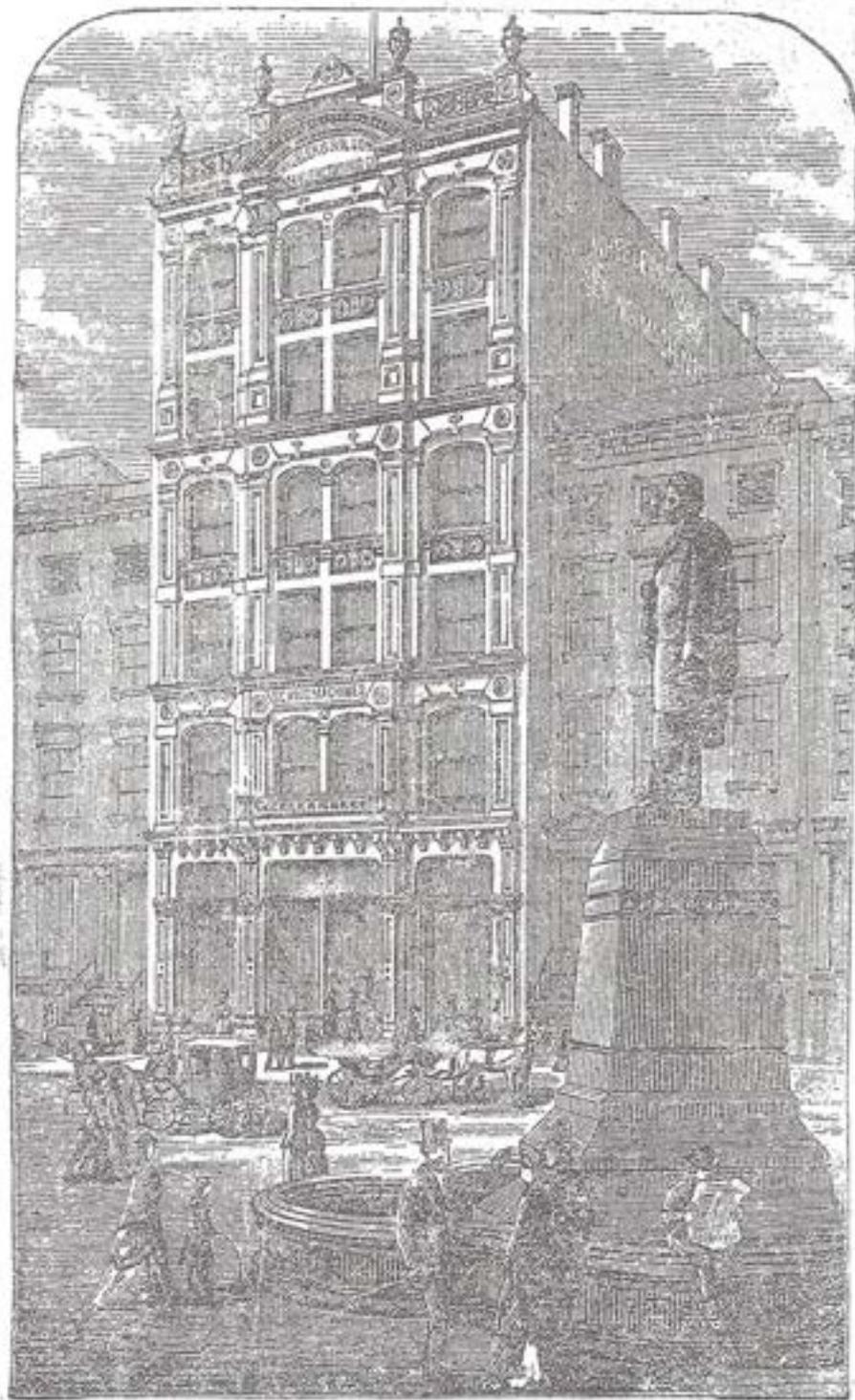
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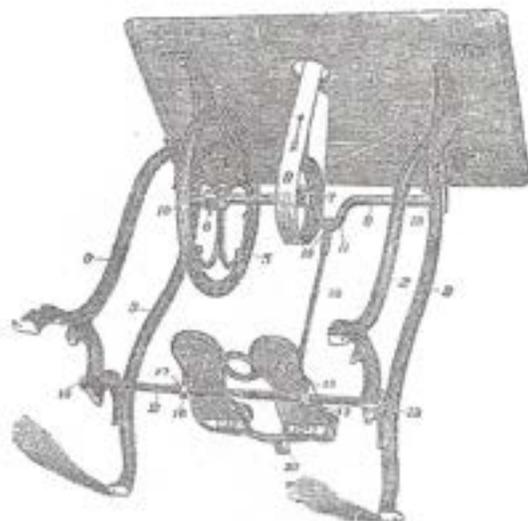
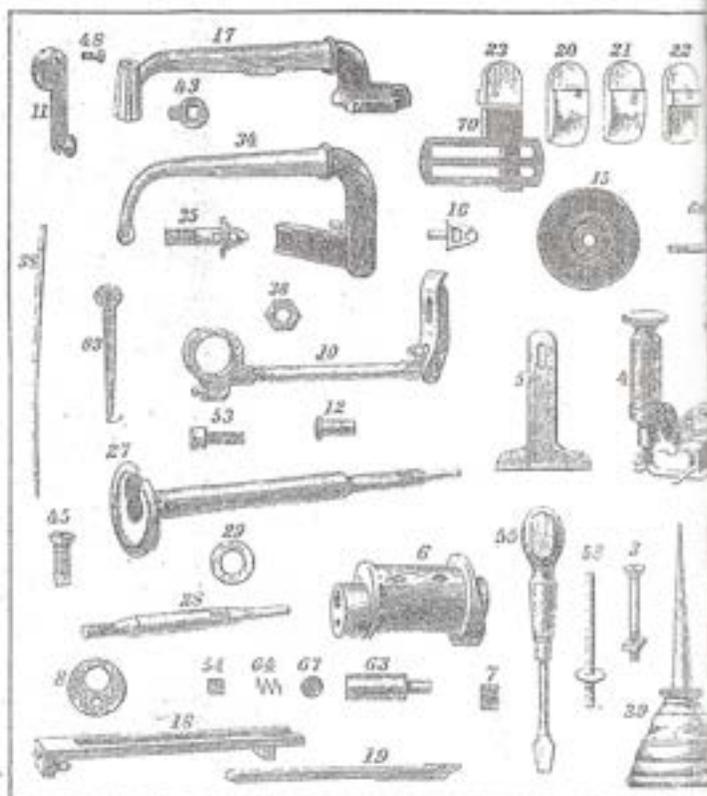
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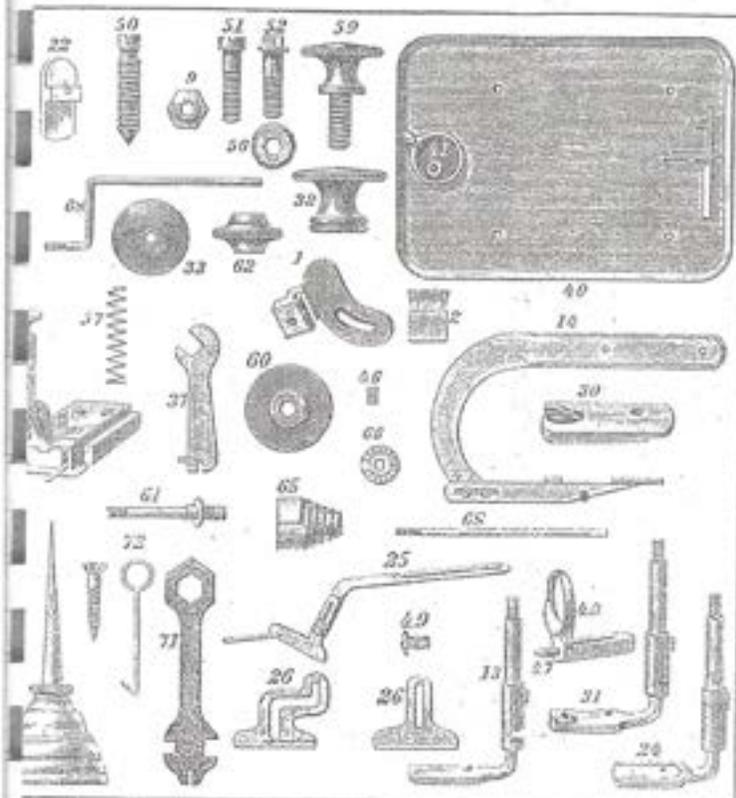
### Wheeler & Wilson Sewing Machine,

31 COURT-ST., BINGHAMTON, N. Y.

## LIST AND PRICES OF PARTS.

	Agents.	Retail.
1 Brush Check and Segment.....	\$1 50	\$2 00
2 Brush.....	25	50 <sup>35</sup>
Belt.....	50	50
Belt Punch.....	75	75
" Tightener.....	75	1 00
3 Bolt and Nut.....	5	10
4 Binder.....	4 25	5 00
5 " Clamp.....	87 1/2	50
6 Cam.....	4 00	5 00
7 " Screw.....	5	10
8 " Washer.....	5	10
" Leather.....	18 1/2	25
9 Check Nut, No. 1 and 2.....	20	25
" " No. 3.....	10	15
10 Connection and Short Lever, No. 1.....	4 00	5 00
" " " No. 2.....	3 50	4 50
" " " No. 3.....	3 00	4 00
11 Cloth Presser Lifter.....	25	50 <sup>35</sup>
12 Connection Pin.....	15	25
Case Hinges, per case.....	1 50	2 00
13 Cloth Presser and Piston, O. S.....	1 50	2 00
14 Corder.....	2 50	3 00
15 Emery Wheel.....	35	50
16 Eyelet.....	10	15
17 Frog, Plated, No. 1.....	4 00	5 00
" " No. 2.....	3 50	4 50
" " No. 3.....	3 00	4 00
Feed Motion.....	1 50	2 00
18 " Bar.....	75	1 00
19 " Point.....	75	1 00
Glass Presser and Hemmer.....	4 50	6 00
20 " Plain.....	25	50 <sup>35</sup>
21 " Braider.....	35	50
22 " Corder.....	35	50
23 " Trimmer.....	25	50
24 " Presser and Piston.....	2 00	3 00
25 Gauge, Bosom.....	75	1 00
26 " Plate.....	60	75
27 Hook.....	50 <sup>35</sup>	6 00
28 " Spindle.....	40	50
29 " Washer.....	5	10
30 Hemmer No. 1.....	2 50	3 00
" Flannel.....	2 50	3 00
" Cambric.....	2 50	3 00
31 " Old Style.....	4 00	5 00





### TABLE AND PARTS.

	Agents.	Retail.
Table No. 1, Complete	\$12 00	\$15 00
" No. 2 "	11 00	14 00
" No. 3 "	10 00	13 00
3 Logs, No. 1, each	3 00	2 50
" No. 2	1.50	2.00
" No. 3	1.25	2.00
2 Brace	75	1 00
3 Crank	1 25	1 50
18 Pitman	1 25	1 50
20 " Pin	5	10
12 Girth	50	75
14 Treadles	1 00	1 25
5 Balance Wheel	1 25	1 50
7 Band Wheel	75	1 00
13 Girth Nut	5	10
17 " Pin	3	5
1 Table Top, No. 1	3.00	4.00
" " No. 2	2.50	3.00
" " No. 3	2.00	2.50
8 Bolt	40	50
6 Set Screw	10	15
19 Pitman Screw	5	10

	Agents.	Retail.
32 Knob, Plated	20	25
" Polished	15	20
Marker	1 75	2 00
33 Metal Spool	25	30
34 Needle Arm, No. 1	4 00	5 00
" " No. 2	3 50	4 50
" " No. 3	2 00	4 00
35 " Yoke	42	50
36 " Nut	8	10
37 " Wrench	20	25
" Case	42	50
38 Needles per doz	60	1 00
39 Oil Can	25	30
Oil, Hyle's	40	50
Oil, per doz	1 50	2 00
40 Plate, Plated	3 00	4 00
" Polished	2.50	3 00
41 Plate Eccentric	25	30
42 " Finger	15	25
43 Piston Collar	5	10
44 Ring Slide, Plated	2 50	3 00
" " Polished	2 00	2 50
Scissors	90	1 25
45 Screw, Plate	5	10
46 " Brush Check	5	10
47 " Ring Slide	5	10
48 " Lifter	5	10
49 " Bosom Gauge	5	10
50 " Needle Arm	25	50
51 " Frog	25	50
52 " Sheet Lever	25	50
53 " Connection	25	50
54 " Thread Guide	10	15
55 Screw Driver	20	30
56 Short Lever Washer	5	10
57 Spiral Spring	5	10
Soap, per doz	1.25	1 80
58 Spool Wire	10	15
59 Thumb Screw, Plated	20	25
" " Polished	15	20
Tension, Complete	2 25	3 00
60 " Pulley	12	20
61 " Stud	20	25
62 " Nut, Plated	15	20
" " Polished	10	15
63 " Thread Guide	75	1 00
64 " " Spring	5	10
65 " Spring, Volute	42	50
66 " Washer	5	10
67 " Guide Washer	5	10
68 " Spool Wire	5	10
69 Thread Hook	5	10
70 Trimmer	1 00	1 25
71 Wrench, Black	15	25
72 Wire Hook	3	5
Wood Spool	15	25

DIRECTIONS FOR USING  
**WHEELER & WILSON'S SEWING MACHINES.**



**Setting up the Table, etc.**

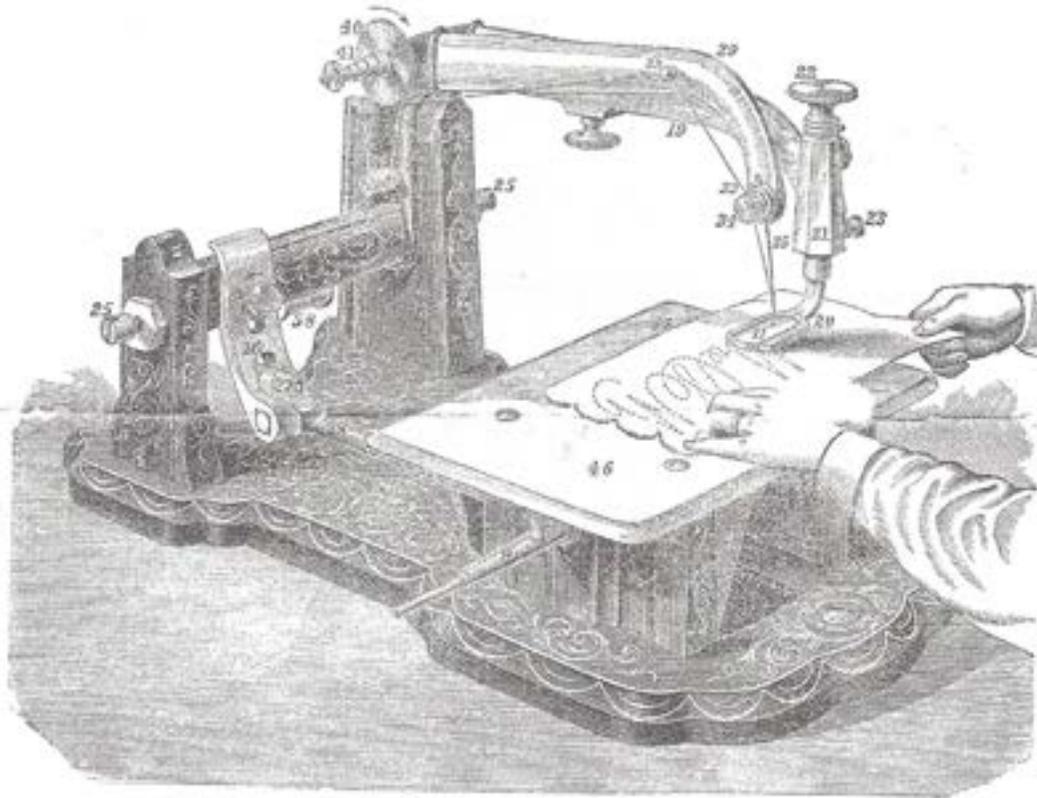


**View of the Appendages beneath the Table.**

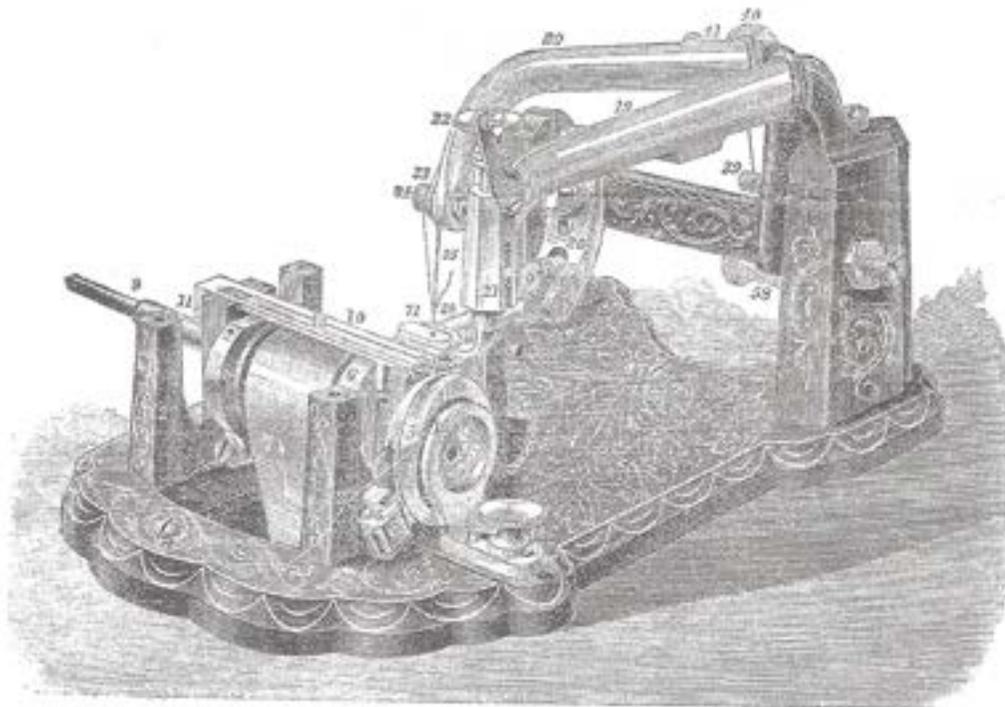
Reverse this cut before you; and reverse also the Table 1, with the holes for the Band 8, nearest you. Fasten by screws through the Flanges 4, 4, the Table Standard 2, 2, at the left hand. Place the other Standard 3, 3, at the other end of the Table, and secure it with one screw. Place the Band Wheel 7, and the Balance Wheel 5, upon the longest end of the Crank Shaft 9, with the longest part of their hubs towards the same end. Place the Band Wheel close to the Crank 11, and the Balance Wheel about one inch from the end of the Shaft, and secure them, as with the Screw 6, through the hubs. Enter the Crank Shaft in its bearings 10, 10. Put the Sandal Shaft 12, through the eyes 16, 16, of the Sandals 14, 14, securing them upon the Shaft by the pins 17, 17. Secure the Sandal Shaft in its bearings by the nuts 13, 13. Draw these nuts tight enough to hold the Crank Shaft 9, from lateral play but not to bind it. Secure the legs firmly to the Table by the remaining screws through the flanges. Attach the Pitman 18, to the Crank 11, by the Clasp Ring 19, of the Pitman, and secure the other end of the toes of the Sandals, by the pin 20. Set the Table upright. Put a drop of Oil daily upon each of the following points: 10, 10; 16, 16; 19; 20.

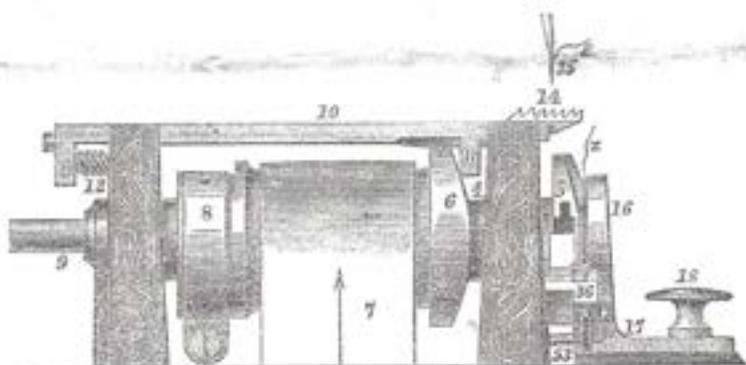
Secure the Machine to the Table by screws through the screw-holes 47, 47.

**View of the Machine ready for Work.**



**View of the Machine with the Cloth Plate Removed.**



**View of the Cloth Plate Reversed.****The Feed Bar.****Preparing the Machine for Work.**

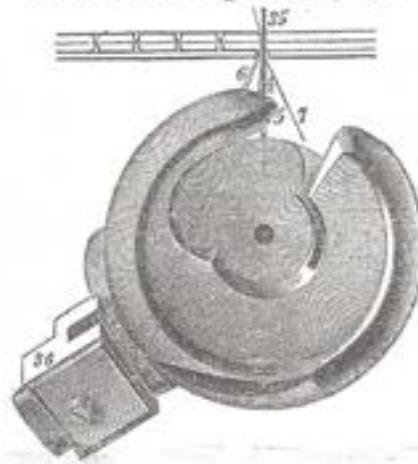
Remove the Cloth Plate 46, by taking out the three screws by which it is fastened to Standards 2, 2. Remove also the Feed Bar 10, and the Bobbin 15. Pass the Band 7, around the Band Wheel below the Table, through the holes in the Table, and around the leather-covered pulley below the Feed Bar. Cut the ends evenly, and, in lacing, leave them slightly apart, to allow for the stretching of the belt. Lace the ends with a fine string as follows:

**Lacing the Band.**

Be careful not to lap it, or make it any thicker by lacing. The band having been adjusted, replace the Feed Bar with the Feed Spring 12, between the left Ear 11, of the Feed Bar, and the left Standard 2. Replace also the Cloth Plate 46.

### The Rotating Hook, etc.

The Needle.



The Needle-Wrench.

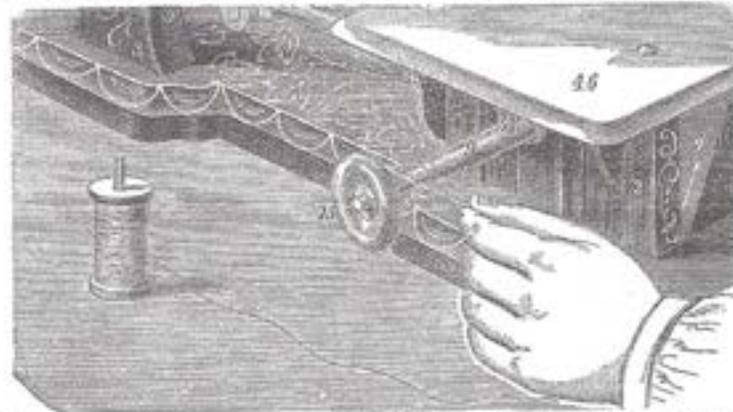


### Setting the Needle.

(5, the Rotating Hook; 4, the Needle; 3, the Loop Check; 6, the Upper Thread; and 7, the Lower Thread.) Set the Needle 4, with its head or shank in the Needle Yoke 34, with its eye ranging from left to right, and the convex of its curve towards the front of the Machine. Secure it by screwing up the nut on the right of the Needle Yoke (use for this purpose the Needle Wrench). Set the Needle so that in its descent it will pass through the centre of the Needle Hole 60, and pass as close as possible to the left of the point 5, of the Rotating Hook, without touching it; and its eye about  $\frac{1}{2}$  of an inch below the point of the Hook, so that this point will enter the centre of the loop of thread formed at the right side of the Needle in its rise. This — line is  $\frac{1}{4}$  of an inch in length.

The Brass Loop-Check 3, should press snugly upon the circumference of the Rotating Hook 5, but not in the chamfered part. Should this Loop-Check become worn so as not to check the Loop of thread, adjust it by turning the Screw 2.

### Spooling the Thread and Threading the Machine.



Wind the Lower Thread upon the metallic Bobbin 15, by placing it upon the Spool Spindle 9, and the spool of the thread upon the Spool Pin, and work the treadles as when sewing. (Use the Under Thread slightly finer than the Upper: if No. 70 thread is used for the Upper, 80 will be the proper number for the Lower. The Upper Thread should be smooth, and well twisted, and adapted to the size of the needle.) While spooling, raise the Cloth Presser 20, by drawing the Lever 23, forward. Place the Spool 38, upon the Spindle, near the base of the Standard 3. Pass the thread over the Rocker 24, through the Thread Guide 39, once around the Tension Pulley 40, and thence through the Eyelets 33, 33, and the Needle Eye 35, from left to right, and draw it through four or five inches to the right, and behind the Cloth Presser 20. Place the Bobbin 15, in the cavity of the Hook 5, with the thread flowing from its top

towards the front of the Machine. Place at its right, the Ring 16, upon the Slide Bar 17, close to it, and secure this bar by the Thumb Screw 18. Draw the end of the Lower Thread forward between the hook 5, and the Bobbin Ring 16, and leave it in the Thread Hold 57, until two or three stitches have been taken.

The following index denotes the Number of Thread suited to the different sizes of Needles:  
 Nos. of Thread, 10 & 16, 20 & 24, 30 & 36, 36 & 40, 46 & 50, 60 & 70, 70 & 80, 80 & 90, and up.  
 Nos. of Needles, 5 4 3½ 3 2½ 2 1 0

Silk and Twist should be used in the same proportion.

The No. of the needle is marked in small figures upon its shank, that is the flattened part of it.

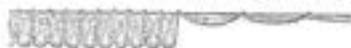
### Operating the Machine.

Be seated before the Machine, with the feet upon the sandals, and the toes under the leather straps. Unthread the Machine by removing the Bobbin 15, and the thread from the needle, and raise the Cloth Presser 20. Learn first the motion of the feet. Start the Machine by raising or depressing the toes, or if necessary turn the Balance Wheel 5, with the hand to assist. Never turn backwards, but move the hand always in the direction indicated by the arrow upon it. Continue this motion pressing gently with the heels and the toes until a slow or rapid motion can be produced at pleasure.

To Sew.—Place the Cloth 45, beneath the Needle and the Cloth Presser 20. Let this Presser drop upon it, and hold the end of the Upper Thread, or of both, loosely between the thumb and forefinger of the right hand, until two or three stitches have been taken; then release the ends of both threads. Place the forefingers of the left hand gently upon the work, and hold with the thumb and fingers of the right hand. Do not pull with the right hand nor hold back with the left, as by so doing the needle is likely to be broken, and the stitches made irregular. Hold the cloth smooth.

THE TENSION, is regulated by the nut at the end of the Volate Spring 41. The point of interlocking of the two threads should be in the centre of the fabric, and show both sides of the seam alike. If the Lower Thread lies upon the lower surface, the Tension is too light; increase it by turning the nut forward in the direction indicated by the arrows. If the work puckers, or the Upper Thread lies upon the upper surface, the Tension is too great; diminish it by turning the nut backwards. Thick work requires a heavier Tension than thin.

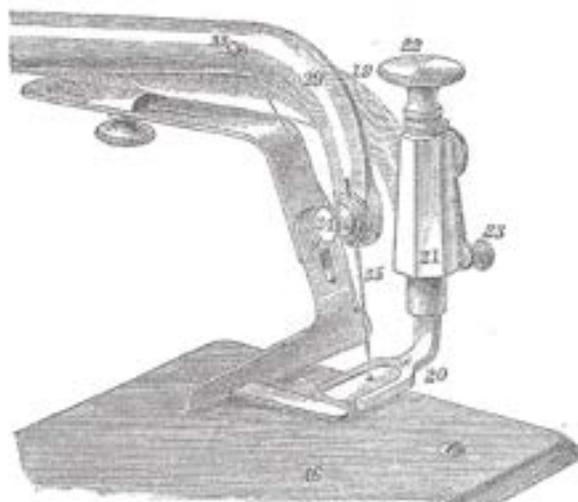
To GATHER, make a long stitch with a loose tension; gather by drawing up the Upper Thread.



### To Regulate the Stitch.

The Machine feeds the cloth through itself; the operator guides it. To make a long Stitch, push the Lever upon the Feed Stop 54, from the front of the Machine. To make a short Stitch, draw it towards the front of the Machine.

### The Large Gauge.



### The Small Gauges.



For Nos. 1, 2, and 4 Machines.



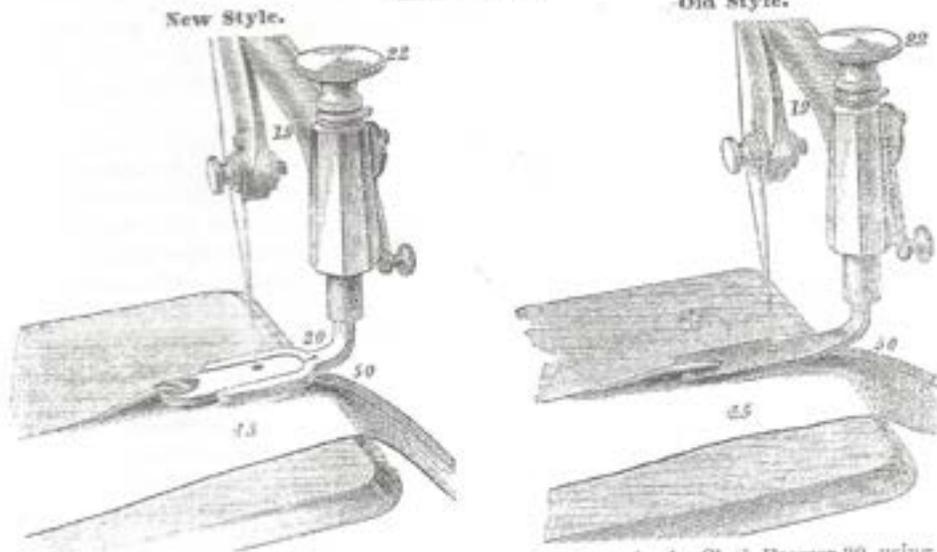
For Nos. 3 and 5 Machines.

To use the large Gauge, attach it to the fixed Arm 19, by the Thumb Screw, and let it extend down over the Cloth Plate, and adjust it according to the width of the seam desired. To use the small Gauge, attach it to the Cloth Plate, at the Screw Hole 44, using the Thumb Screw. The two Gauges are not used in conjunction.

#### Oiling.

Remove the Cloth Plate daily when the Machine is in use; clean well about the Rotating Hook 5, the Feed Bar 10, and the Feed Points 14. Put a drop of oil on each of the following points: the Arbor 4, at its bearings in each Standard 2, 2; upon the Cam 6; upon the Eccentric Ring 8; also the bearings of the Feed Bar 10, in each Standard 2, 2; on the top of the Feed Bar, and the Feed Tongue 13; the Cloth Presser Piston above 21; the Pivots 25, 25, at each end of the Rocker 24; the Hinge 27; the Feed Stop 54.

#### Hemmers.



To adjust the New Style Hemmer, remove the Glass 71, in the Cloth Presser 20, using for this purpose the Wire Hook, and substitute the Hemmer 70. To adjust the Old Style Hemmer, remove the Cloth Presser 20, by unscrewing the Screw 22, and loosening the Fixed Arm, 19, by starting out the screw by which it is fastened to the Standard 3. Put the Hemmer 48, in place of the Cloth Presser 20. Secure it by the Thumb Screw 22, and fasten the Arm 19, again to the Standard 3. Use the light cloth Presser Spring for hemming and light work.

#### To Hem with the Hemmer.

To make a narrow Hem, 59, roll the corners of the Cloth slightly; enter it into the convolution of the Hemmer, and draw it along to the Needle. The Hem is then turned, and stitched as in ordinary sewing. To make a wide Hem, fold the cloth the width of the Hem, and pass the edge through the Hemmer.

#### General Directions.

Set the Needle properly; keep the Machine clean and well oiled, and the Loop Check in proper order, according to directions. Do not make too short a stitch. If the upper thread breaks, it is owing to one of three causes:—

- 1st, the Tension, or friction, is too great on the upper thread.
- 2d, the Loop Check is worn so as not to hold the loop which is passing over the lower spool, until the point of the Hook takes hold of the succeeding loop on the Needle.
- 3d, the Metal Spool has become roughened on the edge, and wears off the thread in passing over it.

If the thread hangs in loops on the under side of the work, increase the tension on the upper thread sufficiently to draw the lower thread up into the goods. Should the thread break by increasing the tension on the upper thread, and still not make a perfect stitch on the na-

## DIRECTIONS FOR USING

# WHEELER & WILSON'S



# FAMILY SEWING MACHINE!

W. SUMNER & CO.,

PIKE'S OPERA HOUSE, NO. 77 FOURTH STREET, CINCINNATI, O.

- To get the motion of the Machine. 1st.—Slip off the Band and start the Balance Wheel, over from you, and work the Treadles without running the Machine, so as to get perfect command of the motion. Then put on the Band and work the Machine without threading the Needle, until you can run it *uniformly*, and with ease.
- Adjusting the Needle. 2d.—Set the Needle with the flat side to the left, being careful to have it go down *the centre of the hole* in the Cloth-plate, and just low enough for the eye to be entering the cloth as the upper thread slips over the Bobbin.
- Placing the Upper Thread and Threading the Needle. 3d.—Place a spool of thread on the Spindle in the rear standard of the Machine, pass the thread through the thread guide, thence upward in front of the tension pulley. Then over around the pully, thence through the two eyelets in the needle arm. Thence from the left side of the needle through its eye, about five inches.
- Placing the under Spool. 4th.—Wind the Thread on the under spool, (which should be a grade finer than the upper Thread,) and place it between the slide-ring and hook; then holding the slide-ring closely to the base, move it as far as you can toward the hook, and fasten it to its place by the Thumb-screw, observing to have the Thread wind from the top of the Spool, toward the front of the Machine.
- To operate the Machine. 5th.—Place the under Thread over the bar on the under side of the Cloth-plate, hold both threads between the thumb and fore-finger of the right hand, while with the left you start the Machine by turning the Balance Wheel over from you.
- CAUTION.** 6th.—NEVER TURN BACKWARD, and never oil the Tension Pulley.
- Tension of the upper Thread. 7th.—To draw the stitch tight, increase the friction of the Volante Spring against the tension pulley, by turning the small screw, pressing against it to you; to loosen the stitch, turn it from you. When the tension is correct, the two threads lock in the center of the cloth, and the stitch is alike on both sides. When the upper Thread is too tight, it draws the under Thread through the goods, or breaks the Thread, or draws the work, which is remedied by loosening the upper thread. When it is too loose, it leaves loops or a straight thread on the under side of the cloth, which is remedied by tightening the upper Thread. For thick cloth, or when using silk twist, a tight upper thread is necessary. For thin muslins, etc., a loose one. The under Thread never requires any tension, as it is always correct for thick or thin goods.
- A long or short stitch. 8th.—Move toward you the Lever projecting on the left and under side of the cloth-plate, for a *short*, and from you for a *long* stitch.

- To make a wide or narrower hem. 9th.—To change the width of the seam from the edge of the cloth, place the gauge, (adjustable by a thumb-screw,) either nearer to or further from the cloth-spring; when it is required still wider, remove the gauge entirely. The beam or tuck gauge is fastened by the same Thumb-screw to the under side of the Arm, which is to the right of the Needle-arm.
- To clean or oil the Machine. 10th.—By taking out the small screws which hold the Cloth-plate, it can be removed; which should be done (when the Machine is used constantly,) once a day, to facilitate the cleaning and oiling of the different parts, care being observed to replace each part in its respective position. Use the best of *Sperma Oil*, to be had at our office.
- If the Thread breaks in the under spool. 11th.—If the thread should break in the under spool, the end can be found with the thread hook, piece of thick paper or sometimes blown out; never use a pin, needle or scissors, or mar the edges of the Spool or Hook.
- Adapt the size of the stitch to the work. 12th.—Care should be used to make the stitch of suitable length. More trouble arises from too short a stitch than from any other cause.
- Needle Arm, when loose, and the way to tighten. 13th.—If the Needle-arm becomes loose by long wear, and works side-ways, it can be adjusted by turning the screws tighter which hold it,—being careful not to get the Needle out of place, nor run the Machine before having the screws entirely immovable—which is done by turning tightly the washers through which they pass.
- To cross seams. 14th.—Go slowly, and in some instances tighten the upper Thread.
- To gather. 15th.—To gather with the under Thread, make a loose upper Thread, and coarse thread in the under Spool. Double the Thread on the under spool when necessary, and put the right side of the work next the Cloth-plate; or to gather with the upper Thread, make a long stitch and a moderately tight upper Thread.
- To tighten the bands. 16th.—If the Band turns without driving the Machine, or does not force the Needle through thick goods, it has become loose, and needs tightening, which can be done by cutting on a small piece and sewing it again.
- Sewing soft goods. 17th.—De Lains and soft goods will sometimes require a little assistance to the feed, by slightly pulling it through the Machine.
- CAUTION.** 18th.—Never run the Machine with the Needle threaded, or the under Spool in, when not sewing, as the thread is apt to wrap round the Hook and clog up the Machine. Should this occur, take out all the Thread you can with a pen-knife, and then drop a little oil behind the Hook, and work it out by running the Machine.
- How Needles are loosened. 19th.—Needles are broken by holding the upper Thread too tight when starting, or by pulling the work, thus causing the Needle to strike the plate, instead of going in its proper place; or sometimes by being forced out of its place by an accumulation of Thread which may collect around the under Spool.
- Why the upper thread breaks. 20th.—The upper Thread breaks 1st, when it is too tight. 2d, When the needle is too fine or too coarse for the Thread. 3d, When the Loop Check is worn so as not to hold the loop which is passing over the lower Spool until the point of the Hook takes hold of the succeeding loop on the needle. 4th, When the Loop Check becomes rough, or needs oiling. 5th, There is not sufficient room between the Slide-ring and the Hook, for the upper thread to pass freely over the lower spool. 6th, The metal spool has become roughened on the edge, and wears off the Thread in passing over it.  
If the Thread hangs in loops on the under side of the work, increase the friction on the upper Spool, sufficiently to draw the lower thread up into the goods. Should the thread break by increasing the friction on the upper Spool, and still not make a perfect stitch on the under side, examine the lower Spool, and see if there is any roughness on it, or on the Hook, so as to prevent the Thread from passing freely over it.  
We adjust the Machines for all the usual kinds of sewing, and for the ordinary sizes of thread and there is no need of making changes to secure a perfect operation of the Machine. Thread or silk can be used with equal facility; all that is necessary is to adapt the Needle to the material used.
- Size of Needles and Thread. 21st.—Let the size of the Needle conform to the size of the Thread. OAK & McNAUGHT'S COTTON is the best. If GIRD is used, let it only be on the upper Spool.  

With No. 0 Needles, (the finest,)	80 to 100	Cotton	should be used.
" " 1 "	70	" " " "	" " " "
" " 2 "	60 to 60	" " " "	" " " "
" " 2½ "	50 to 40	" " " "	" " " "
" " 3 and 4 "	Coarser	Thread.	

Much finer Thread is used on the Machine than by hand, every stitch being double. There is seldom any sewing in a family which requires a coarser cotton than No. 80; Nos. 60, 60 and 70 are the sizes mostly used.

If the stitch pulls down through the cloth-plate. 22d.—When the stitch is too short, or when the Needle and Thread are too coarse for the work, or when the Thread is too coarse for the Needle, the work will sometimes be forced down the opening in the Cloth-plate.

Why it skips stitches. 23d.—The Machine will skip stitches if the Needle is too high or too low. If the Pad is worn, or becomes rough, so as not to detain the upper Thread long enough, or detains too long in its passage round the Hook; or if the Needle is too far from the Hook, so that the loop is not caught at each revolution.

24th.—Stiff Brilliants, or goods with much dressing, are rendered more pliable by rubbing with white soap, or by putting a drop of oil on a spool of thread.

25th.—Never turn the various screws in the Machine, as it is always properly adjusted, and any difficulty which may occur, a little patient investigation will discover and remove.

26th.—If the Machine does not feed the goods, the feed point needs cleaning or the stitch is turned too short.