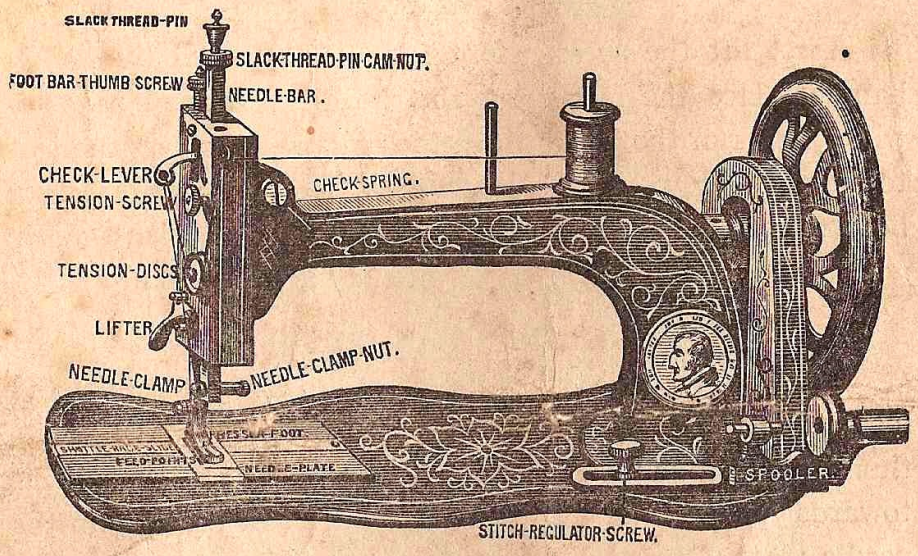
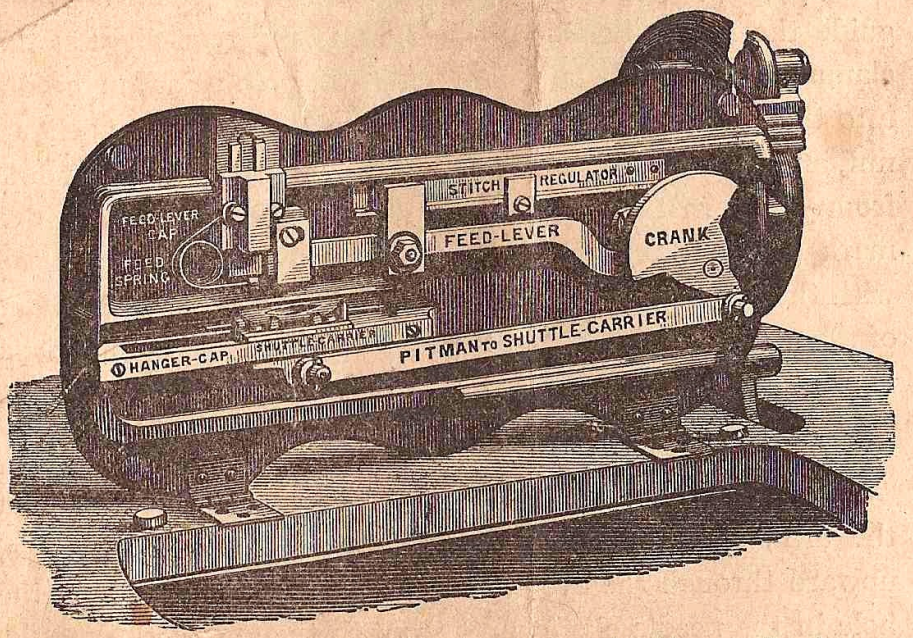
DIRECTIONS FOR USING

THE NEW PATENT

Family or Medium Machine

Refer to these Cuts for the technical names of the parts of the Machine.





This Cut represents the Machine turned on its hinges, showing the parts on the underside.

To Learn the Use of the Machine.

ON unpacking the Machine, notice the manner it is threaded up for future guidance; having done this, *raise the lifter*; then cut the thread above the eye of the needle; remove the sample, and proceed to learn.

THE TREADLE MOTION.

First lift the presser foot from off the feed by the lift handle, place the feet upon the treadle, disengage the fly-wheel, and run the loose wheel toward you, allowing the feet to move freely with the motion thus given for a time until it becomes easy; then put the machine in motion with the fly-wheel, and again run it a little when all is in motion.

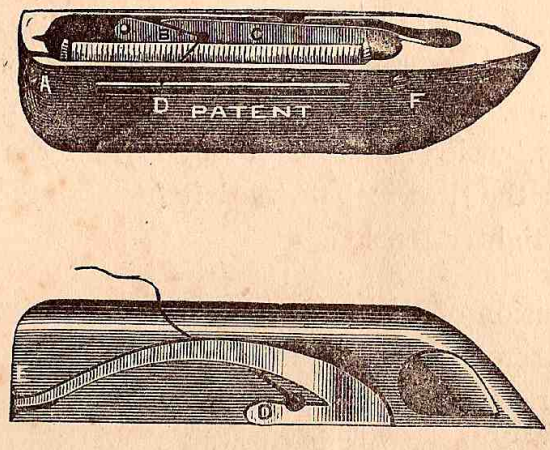
TO ADJUST THE NEEDLE.

Allow the needle-bar to rest at its highest point, and loosen the needle clamp nut. Take the needle between the thumb and forefinger of the left hand, having its long groove towards you, and put the point down through the hole in the needle plate; turn the wheel gently towards you while you guide the needle under the needle clamp; then tighten the clamp nut; with the left hand insert the point of a fine needle into the eye, resting it on the needle plate; loosen the clamp nut, and pressing the fine needle into the eye in a direct line from you, turn the wheel gently towards you until the gauge mark (a line graven in the needle bar, near the top) is level with the top of the arm; then tighten the clamp nut, the eye of the needle being level with the needle plate. When using a fine needle and mis-stitches appear, raise the needle a little.

TO THREAD THE NEEDLE.

Pass the thread from the reel through the eye at the top of the arm, downward under and between the tension discs, upward through the eye of the check lever, then through the hole in the needle clamp, and through the eye of the needle, as shown in the first engraving.

TO THREAD THE SHUTTLE.



NEW PATENT SELF-THREADING SHUTTLE.

How to Adjust the Thread.—Insert the reel first at the pointed end of the shuttle, then press the other end into its place. Having the thread coming upwards from the under side of the reel, pass it in and behind the bar **D** at **A**, down the slot **B**, behind the spring **C**, through the slot in the side; hold it there with the thumb of the left hand whilst you pass it finally *round* the side spring at its end **D** on the lower view, leaving about two inches of thread out of the shuttle; the thread is thus instantaneously slipped through the slots provided, by which all the threading of eyes or holes is avoided.

To Regulate the Tension.—This is simply done by turning the small screw **F** to the left for a *slacker* or to the right for a *tighter* tension. When an even tension is once obtained it will seldom require alteration.

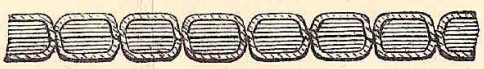
A specially *small* screwdriver is provided for this purpose, the ordinary one being too large.

TO REGULATE THE TENSIONS.

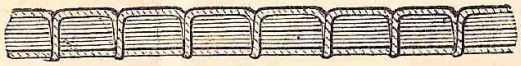
Test the tension of the shuttle thread by drawing it towards the blunt end of the shuttle ; if it draws as tightly as it will bear without breaking, it is right for fabrics of firm texture ; thin, soft fabrics, require less tension. To obtain more or less tension : this is done by turning the small screw **F** (shown in the drawing) to the left for a slacker, or to the right for a tighter tension.

The tension of the needle thread is regulated by turning the tension screw (as shown in the first engraving) to or from the operator. To test the tension, draw the thread downward from the check lever, turning towards you the tension screw until the thread draws as tightly as it will bear without breaking, except for thin, soft fabrics, when the same rule applies to the *needle thread* as to that of the shuttle.

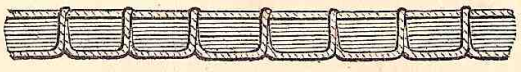
To produce good work the tensions should be thoroughly understood. Both threads should be locked together and drawn to the centre of the fabric, showing both sides of the seam alike, thus :—



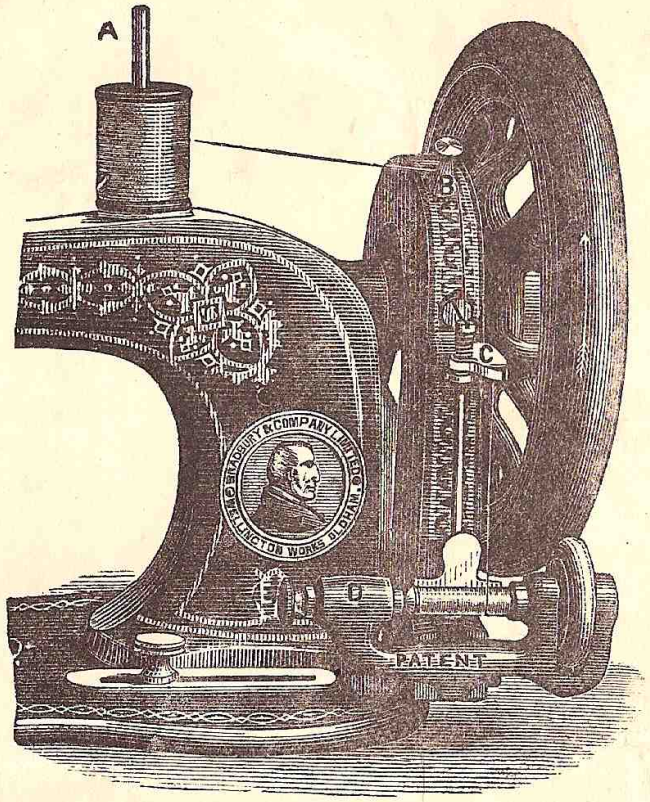
If the lower thread lies upon the lower surface of the work, thus :—



the top tension is too tight ; increase it by turning the tension screw towards you. If the work puckers, or the top thread lies upon the surface of the work, thus :—



the top tension is too great ; diminish it by turning the tension screw from you.



NEW PATENT SELF-ACTING REEL WINDER.

Now Fitted to all our Machines.

How to use the Winder.—Place the bobbin to wind from on the peg **A,** pass the thread between the two washers downwards, and under the eyelet on the swing lever, and in the groove, and secure the end between the reel's end and the cup of the pulley spindle ; pull at the spindle **E** until the reel point lodges in its centre, and having thus adjusted the reel for winding, lift up the frame **D,** to place it in contact with the flywheel of the machine (which first cause to *run loose* by forcing its adjusting pin into the slot at right angle). Run the wheel in the direction of the arrow—which is opposite to that when sewing, having the thread tight—(see sketch), and take care to commence winding close to one end of the reel. Continue to wind *without touching* the thread, and, when full, the frame **D** will, by its own action, fall out of contact with the wheel, and thus *cease* to wind. If you desire to disengage the winding frame from the wheel, push at the flat plate behind the shuttle reel.

If in course of time the India-rubber ring should become worn and cease to have sufficient friction, unscrew the two screws which secure the wheel-guard to the machine, and push it a little from you, then secure it as before.

Should the same ring ever become unfit for use, it may be replaced by *removing the pulley*, which is secured to its spindle by a screw found under the rubber ring.

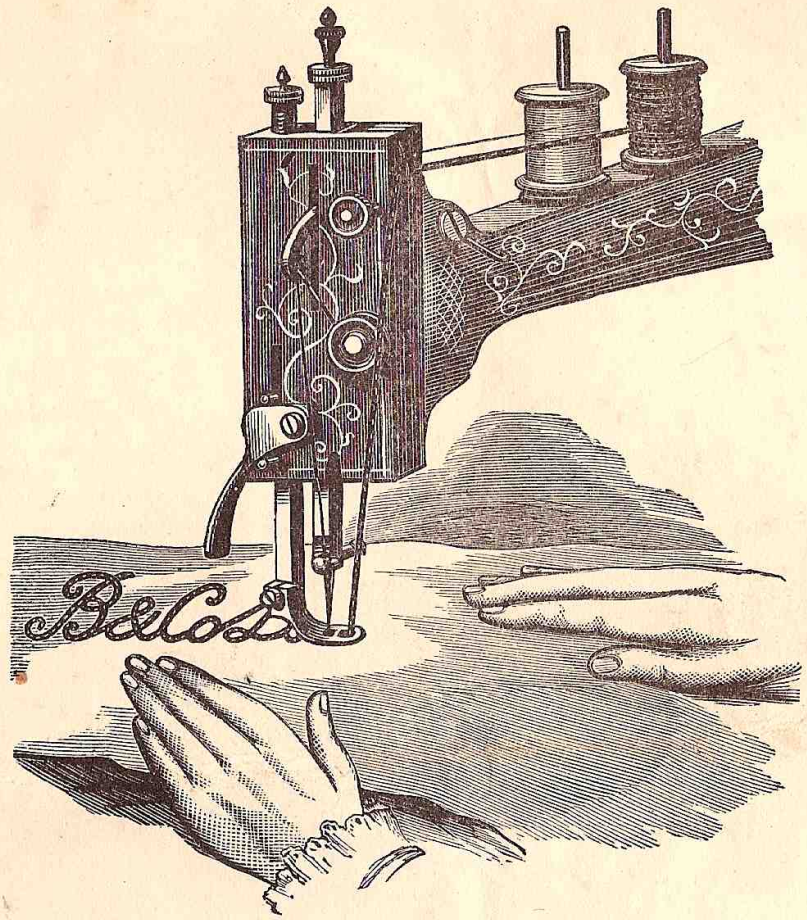
TO OIL THE MACHINE

If the machine is only used occasionally it requires but little oil, and in the following places, when the needle bar is at the lowest point, the hole marked oil, the sides of the nee . le bar, in the four holes on the top of the arm, the two holes on the side of the arm, the shuttle carrier slide, both ends of the pitman and feed lever, the feed raising cam, the centre joint of the feed lever, balance wheel, and the slot of the feed guide. Occasionally oil the places indicated in the note below. After oiling, put the machine in rapid motion for a few minutes, then wipe off the superfluous oil from the lower end of the needle bar, the presser bar, and from the shuttle race and shuttle.

NOTE.—If the machine is in constant use, it requires to be well oiled twice a day in all the places enumerated above, and also on the following places : each end of the treadle where it rests in the centres, both ends of the wooden pitman, ends of fly-wheel crank, the hinge of the check lever, the points of the bobbin, the face of the shuttle, the stitch-regulator slide, the winder spindle, the top of the lifter, and inside the slot.

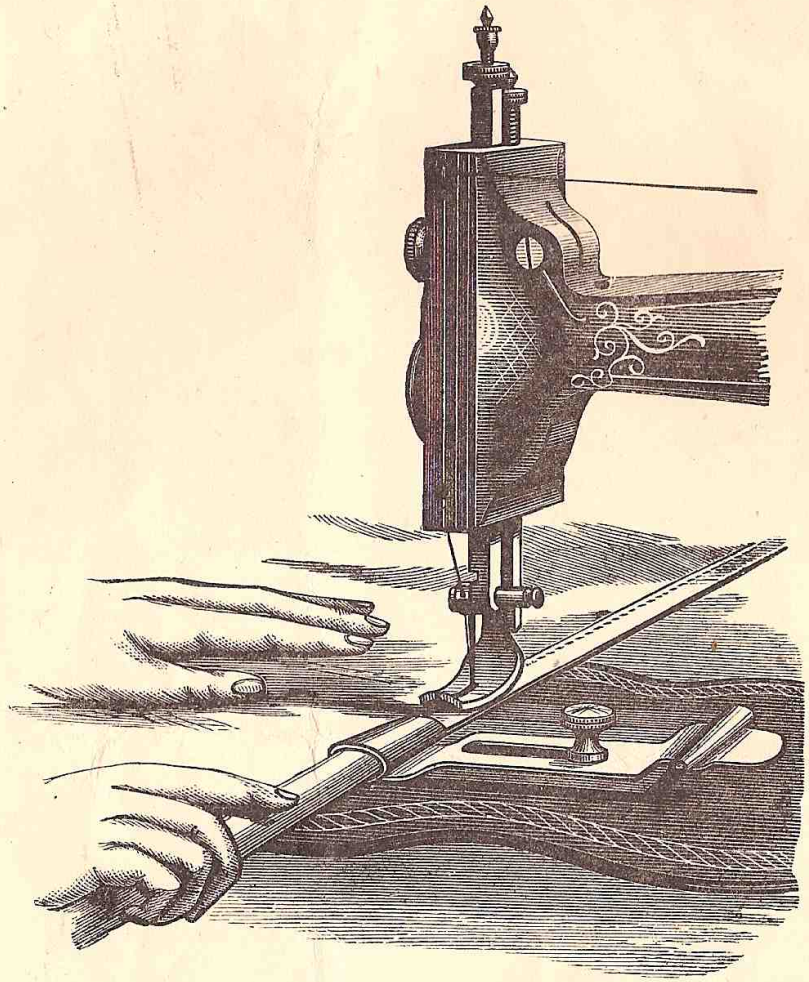
TO COMMENCE SEWING.

When the needle bar is at the lowest point, draw out the left hand shuttle slide, place the shuttle in its carrier, leaving out about two inches of thread, then draw about two inches of thread downward from the check lever and through the eye of the needle, holding the end with the left hand, allowing it to be slack from the hand to the needle, whilst you turn the wheel towards you until the needle moves down and up again to its highest point ; the shuttle slide will by this have become closed. Pull the needle thread gently, and the shuttle thread will appear with it. Leave the threads to the left across the feed points, place the fabric under the needle, lower the lifter, and commence sewing. Having made a few stitches, stop and examine them. *If the thread is straight or in loops on the under surface of the fabric, turn the tension screw towards you to tighten the needle thread ; if it is straight or in loops on the upper surface of the fabric, turn the tension screw from you, to loosen the needle thread.*



THE BRAIDER.

Wind the braid upon an ordinary reel straight and even, without twisting. Place the reel upon the vacant spindle, pass the braid through the eye at the top of the arm ; take off the ordinary sewing foot and attach the one for braiding. Then attach a small piece of thread to the end of the braid, and pass it through the slot in the braider. The braid will pass through with it, or pass the braid through by pushing the end with the point of a needle. Stamp or trace the work to be braided to any design, however elaborate, upon shawls, mantles, dresses, jackets, slippers, smoking caps, &c. By following the traced lines the braid is sewn on as in ordinary sewing by hand.

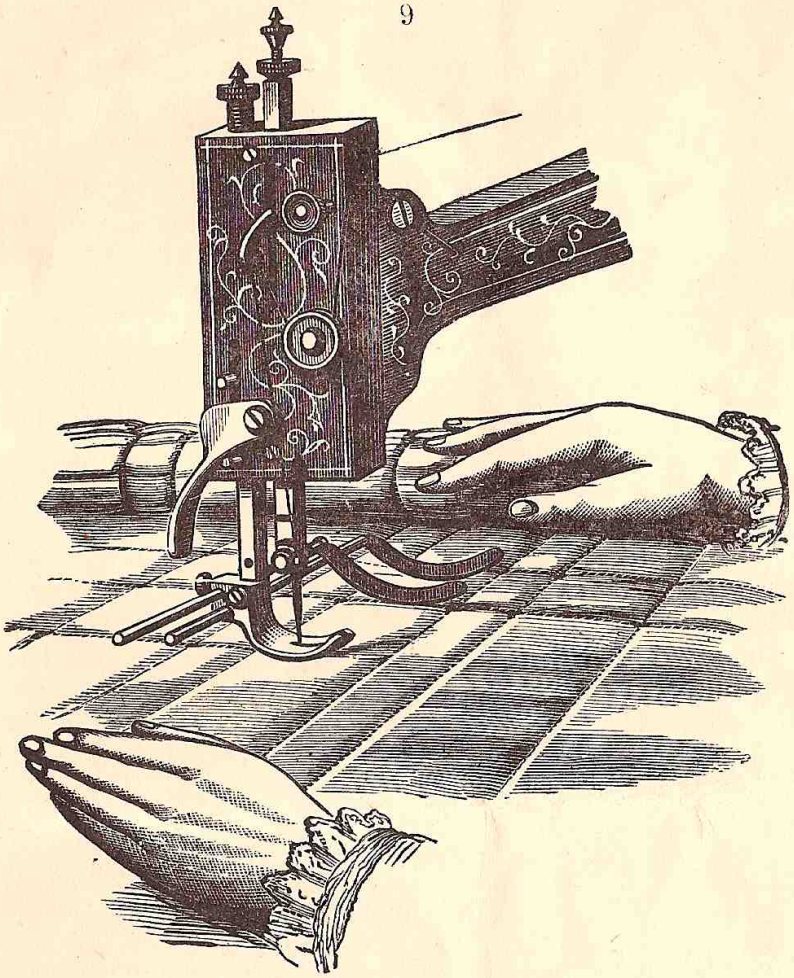


DOUBLE HEMMER.

The smallest end of the hemmer is for light materials, such as pocket handkerchiefs, muslin, &c. The largest end for house, table, and bed linen, flannels, damasks, dress flounces, and trimming generally.

Fix either end of the hemmer as may be desired on the table by the thumbscrew, adjust to its proper position so that the needle strikes on the edge of the hem as shown by the dotted lines. Having thus fixed it for use, take the material in hand, place in at the front of the hemmer the part to be hemmed, taking care to fill the cone with the material, so that in its passage through to the needle the hem becomes folded, and thus stitched.

If the raw edge appears on the hem it is because the hemmer has not had sufficient material to turn it under and complete the fold.



DOUBLE QUILTING GAUGE.

Fix the two guides in the holes of the presser foot, as per figure above. If different sized squares or diamonds are required, set one guide nearer the needle than the other, so as to produce alternately one large and one small square or diamond. You commence by creasing the material a short distance from the corner. Follow the crease for the first line of sewing, then the guides on the different lines afterwards. After having stitched the work with parallel lines, commence the cross lines of stitching to form the squares or diamonds by a crease as at commencement. These guides can also be used for quilting a whole piece of work without leaving off or cutting the thread. This is done by fixing one guide to the right, the other to the left of the needle; if squares are required, set them equal distances from the needle; if squares of different sizes are required, set them accordingly. When at the end of the first line of sewing, turn and make a few stitches on the edge, counting them for future guidance, and when to turn round the work. Continue this till the work be finished.

TO ALTER THE LENGTH OF STITCH.

The stitch-regulator screw is adjustable in a slot. (See cut, p. 1). *To lengthen the stitch*, loosen the screw, and move it to the right ; *to shorten the stitch*, move it to the left. After adjusting the length of stitch, tighten the screw.

NOTE.—When the screw is at the end of the slot, and the stitch not as short as desired, change the screw into the second hole in the stitch-regulator slide, then move it still further to the left.

TO REMOVE THE WORK.

Allow the needle bar to rest at its highest point, draw the thread downward from the check lever about three inches ; raise the lifter *and draw the fabric from the left side of the presser foot upwards* about three inches ; then cut the threads, leaving the ends long enough to re-commence sewing. Seams requiring to be extra strong at the ends should be secured by taking a few stitches in the opposite direction before removing the work, *the same as in hand sewing.*

ACCESSORIES GIVEN WITH EACH MACHINE.

1 BRAIDER (Illustrated).
1 DOUBLE HEMMER (Illustrated).
1 STRAIGHT GUIDE.
1 SCREW FOR STRAIGHT GUIDE.
1 COARSE NEEDLE PLATE.
1 SPRING FOR CHECK LEVER.
2 QUILTING GUIDES (Illustrated).
6 SHUTTLE BOBBINS.
12 NEEDLES.
1 WRENCH.
1 SCREWDRIVER.
1 OILER.
1 SMALL SCREWDRIVER.
1 BOOK OF INSTRUCTIONS.

CAUTION.

When Needles, Accessories, or Parts are required (whether for this or any other system of machine of our make), in ordering please state distinctly for what machine, and, if possible, send sample, or the old part. *Refer to Illustration on page* 12.

REPAIRS.

Machines sent to us for repairs must have the name of the sender inside the box, and the charges prepaid, or they will not be received from the Railway Company. All machines sent to us for repairs, or otherwise, must be at owner's risk. The stand of the machine need not be sent to us when the machine only is to be repaired.

SPECIAL NOTES.

THE SLACK-THREAD PIN presses down the check lever. It is adjusted properly for all classes of general sewing, AND SHOULD NEVER BE ALTERED unless the thread breaks in sewing very thick cloth; then loosen the screw and adjust the slack-thread pin a very little lower. Should it become displaced, re-adjust it according to the following rule —It should begin to press down the check lever when the needle gauge mark is one-eighth of an inch above the top of the arm.

THE CHECK SPRING draws up the check lever. Should it break or wear out after long usage, insert another as follows:—Let the needle bar rest when the gauge mark is level with the top of the arm, take out the screw that holds the spring, draw the check lever out half its length, holding it while you put in the spring with its hooked end downwards, then move the check lever back into its place. Replace the screw turning it round a few times only, press down the end of the spring into the first hole (or into the second or third hole if using coarse thread), and tighten the screw.

THE PRESSER SCREW regulates the pressure upon the fabric; turn it to the right to increase the pressure, and to the left to decrease it. Fabrics of thick or firm texture require more pressure than thin and soft fabrics.

THE LEATHER BAND must be tight enough to work the machine without slipping. If it is too loose, cut about half-an-inch from one end, and re-fasten it as before.

IF THE NEEDLE THREAD BREAKS when the needle is adjusted properly, it is caused by the tension being too tight, the eye of the needle being too small, the slack-thread pin becoming displaced (see note above), a roughness on the shuttle or its carrier, and sometimes, when using coarse silk, by the point of the needle being bent.

IF THE SHUTTLE THREAD BREAKS, loosen the tension by turning the small screw in the shuttle to the left. (See page 3—to thread the shuttle).

IF THERE ARE MISSED STITCHES, they are caused by the needle being adjusted too high or too low, by it being bent away from the shuttle, it being too small for the thread, or by the point of the shuttle having become blunted. When using a fine needle and mis-stitches appear, raise the needle a little.

IF THE NEEDLE THREAD FORMS SMALL LOOPS on the top of the fabric, it is caused by the check spring having been broken (see note above, "Check Spring"), and sometimes, when sewing with coarse silk or linen thread, by the needle being too fine, or its point being bent. In the latter case smooth the point of the needle on an oilstone.

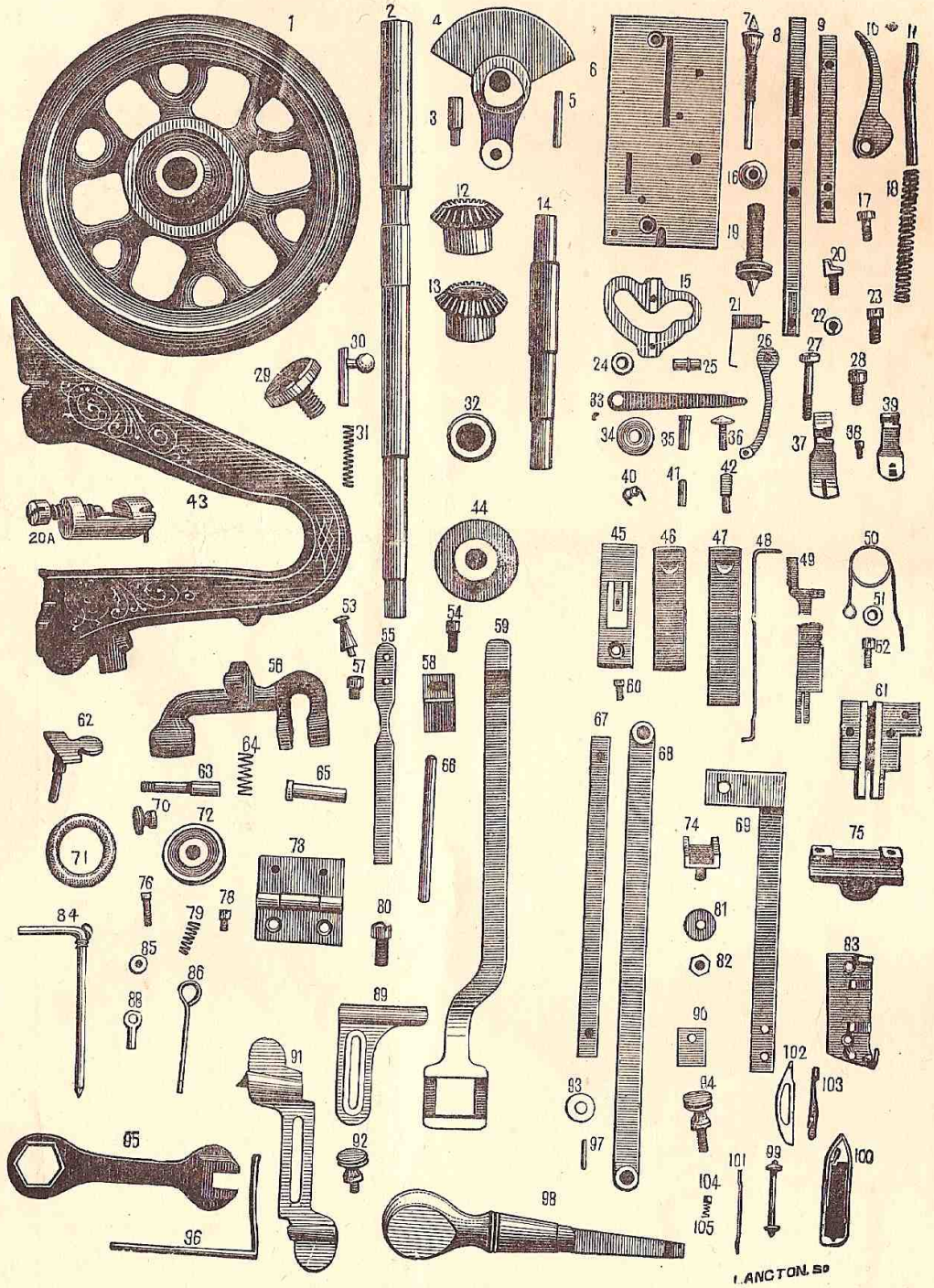
IF THE STITCHES VARY IN LENGTH while hemming or sewing very thick and soft fabrics, loosen the feed-raising cam, and move it a little to the left to raise the feed points, then tighten it firmly; do not raise the feed points too high. When they drop down in working, they should be a little below the surface of the needle plate.

SEAMS IN HARD COTTON FABRICS should be passed slowly, and if extra thick, rub a little white soap on them, which will facilitate the passage of the needle.

THE EXTRA NEEDLE PLATE, which has a large hole, is only required when using No. 4 or 5 needle with 25 to 60 linen thread. Never use it for any other numbers.

See page 15 for sizes of needles and threads.

ILLUSTRATION OF PARTS.



No.	Name of Part.	Price. s.	d.
1	Balance Wheel, black (Medium)...	4	3
1	,, ,, plated ,, ...	5	8
1	,, ,, black (Family) ...	3	6
1	,, ,, plated ,, ...	5	0
2	Horizontal Shaft (Family).....	3	6
2	,, ,, (Medium)	4	3
3	Crank Stud for Pitman Rod	0	3
4	Crank (Family)	2	9
4	,, (Medium)	3	6
5	Taper Pin for Crank or Gear Whl.	0	2
6	Face Plate	3	6
7	Slack Thread Pin	0	4
8	Needle Bar (Family)	1	9
8	,, (Medium)	2	2
9	Presser Bar	1	5
10	Lift Handle	0	8
11	Extension Pin for Presser Bar ...	0	3
12	Gear Wheel for Horizontal Shaft, with screws	1	0
13	Gear Wheel for Upright Shaft ,,	1	0
13	Steel Gear Wheels (per pair).....	4	8
14	Upright Shaft	1	5
15	Needle Bar Cam	0	9
16	Nut for Slack Thread Pin.....	0	2
17	Screw for Lift Handle	0	2
18	Spiral Spring for Presser Bar.....	0	2
19	Thumb Screw for Presser Bar.....	0	4
20	Needle Clamp, old style	0	4
20A	,, ,, new style with screw	0	5
21	Check Lever Spring	0	2
22	Nut for No. 20	0	2
23	Screw for Face Plate	0	2
24	Roller for Cam Stud	0	9
25	Stud for ,, ...	0	5
26	Check Lever	0	3
27	Screw for Check Lever	0	2
28	,, ,, side of Arm	0	2
29	,, ,, end of Horizontal Shaft	0	9
30	Piston for Loose Wheel	0	9
31	Spring ,, ,, ,, ...	0	2
32	Collar for Upright Shaft	0	4
33	Tension Spring	0	2
34	Tension Discs ..... each	0	2
35	Tension Stud	0	2
36	Thumb Screw for Tension	0	3
37	Presser Foot	0	9
38	Screw for Presser Foot.....	0	2
39	Braiding Foot	1	0
40	Th'd Eyelet for side of Face-plate	0	2
41	Stop-Peg for Lift Handle	0	2
42	Pin for Presser Bar Lift	0	2
43	Belt Cover or Guard (Family) ...	1	9
43	,, ,, (Medium) ...	2	6
44	Cam Disc or Wheel	1	5
45	Needle Plate, fine or coarse.....	0	5
46	Slide for Shuttle Race, Right.....	0	9
46	,, ,, Left	0	9
47	,, Feed Race	0	5
48	Wire for closing Shuttle Race Slide	0	2
49	Feeder, serrated	1	5
50	Feed Spring	0	2
51	Washer for Feed Spring	0	2
52	Screw ,, ,, ...	0	2
53	Thread Stud for Guard	0	2
54	Screw for Feed Wedge	0	2
55	Knock-off Spring for Winder.....	0	2
56	Frame for Winder.....	0	9
57	Screw for No. 55	0	2
58	Feed-Wedge	0	9
59	Feed Lever (Family)	4	3
59	,, (Medium)	5	8
60	Screw for Needle Plate	0	2

No.	Name of Part.	Price. s.	d.
61	Feed Guide	2	9
62	Presser Plate & Stud for Winder	0	9
63	Pin or Centre for Winder	0	3
64	Spiral Spring for ,, ...	0	2
65	Spindle for Winder Pulley.....	0	4
66	Bobbin Peg	0	2
67	Shuttle Race Bar	0	9
68	Pitman to Shuttle (Carrier	1	5
69	Stitch Regulator (Family)	2	9
69	,, ,, (Medium)	3	6
70	Nut for Winder Pin	0	3
71	India-r'ber Ring for Win'r Pulley	0	2
72	Pulley for Winder	0	4
73	Hinge for Bed Plate.....each	0	3
74	Sw'l J'nt for St'ch Regul'r (Fa'ly)	0	9
74	,, ,, ,, (Medium)	1	0
75	Block for Shuttle Carrier	0	9
76	Screw for Winder Tensions	0	2
78	Screw for Winder Pulley	0	2
79	Spiral Spring for Winder Tension	0	2
80	Screw for Top Arm.....	0	2
81	Washer for Swivel Joint	0	2
82	Nut ,, ,, ...	0	2
83	Shuttle Carrier	1	5
84	Swing Lever for Winder	0	9
85	Bush for Winder	0	2
86	Shuttle Screw-Driver.....	0	2
88	Staple for No. 84	0	2
89	Edge Guide, plated.....	0	9
90	Plate for Stitch Reg'tor (Family)	0	2
90	,, ,, ,, (Medium)	0	3
91	Double Hemmer	1	0
92	Thumb Screw for Edge Guide...	0	3
93	Washer for Pit'n or Con'ing Rod	0	2
94	Thumb Screw for Stitch Reg'tor	0	4
95	Iron Wrench	0	4
96	Quilter Wires .....each	0	3
97	Pin for Pitman Rod Stud.....	0	2
98	Screw-Driver	0	5
99	Shuttle Reel.....	0	2
100	Shuttle Patent.....	3	6
100	,, Old Style	2	2
101	Thread Bar for Shuttle	0	2
102	Shuttle Thread Guide.....	0	2
103	,, Tension Spring	0	5
104	,, Centre for Reel	0	3
105	,, ,, Spring (only) ...	0	2

Parts not Illustrated.

Bed of Machine (Family)	10	6
,, ,, (Medium	14	0
Arm ,, (Family)	10	6
,, ,, (Medium)	14	0
Winder & Guard complete (Fa'ly)	10	6
,, ,, ,, (Medium)	14	0
Winder only complete	2	2
Hemming Foot	2	2
Gathering Foot	1	0
Corder (Foot 1s. 9d., Guide 1/-)	2	9
Binder, adjustable	5	0
Hemmer ,, ...	4	3
Lock and Key for Cover	0	9
Oil Can	0	5
Needles ..... per dozen	0	11
Driving Belt and Hook	0	5
Hook for Driving Belt	0	1
Screws, various	0	2
Orn'l Cover, with Lock (Family)	21	0
,, ,, for Hand Machine	24	6
,, ,, ,, (Medium)	23	9
Key for Cover Lock	0	3
Box of Extras	6	8

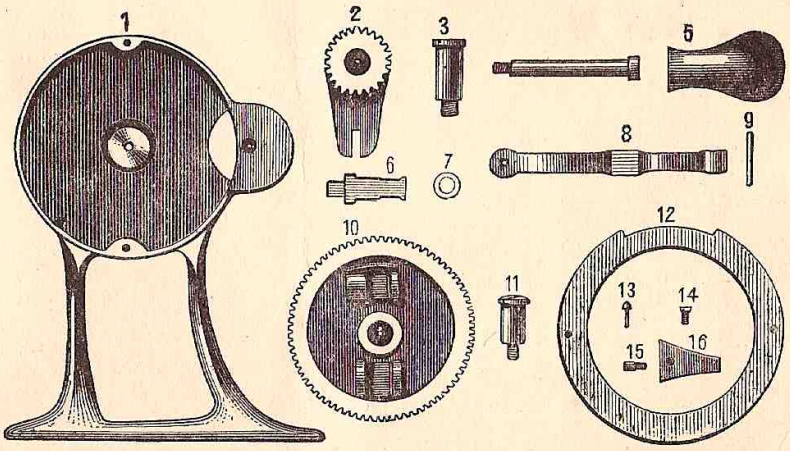
N.B.—In ordering Parts, kindly be particular to state whether for the Family Machine or for the Medium Machine.

PARTS OF STAND FOR FAMILY OR MEDIUM MACHINES.

	s.	d.
Stand and Table complete	47	6
Wood Table Top with Drawer or Box	14	0
Work Box or Drawer	2	9
Extension Leaf for Table	9	9
Oil Dripper—Cast Iron	2	2
,, Tin	1	0
Stand-Side—Right	7	8
,, Left	7	0
Stand Brace, for Right or Left Side	2	9
Washers for Brace Centre	0	3
Screw for ,, ...	0	4
Treadle Rod ,, ...	1	5
Nut for Treadle Rod	0	3

	s.	d.
Bolt & Nut for Stand-Side & Braces	0	3
Foot-Plate or Treadle for fitted Cones	2	9
Cone Bushes for Treadle	0	9
Screw for Cone Bush	0	2
Treadle Stud for Connecting Rod ...	0	5
Screw for securing same	0	2
Wood Connecting Rod	1	0
Wheel Stud for Connecting Rod.....	0	9
Nut for ,, ,, ,, ...	0	3
Fly-wheel or Driving Wheel.....	3	2
Stud for Fly-whee	1	5
Nut for Fly-wheel Stud	0	3
Table, if Double Mould..... extra	5	0

ILLUSTRATION OF PARTS OF HAND APPLIANCE FOR FAMILY MACHINES.



No.	Name of Part.	Price. s.	d.
	Hand Appliance complete	11	3
1	Frame of Stand	2	9
2	Pinion and Crank	2	3
3	Stud for Pinion and Crank	0	4
4	Stud for Handle	0	3
5	Bone Handle	0	4
6	Driving Stud	0	4
7	India-Rubber for Drawing Stud...	0	2
8	Levers for Handle.....	0	9
9	Joint Pin for Lever	0	2
10	Large Gear Wheel.....	2	9
11	Stud for Large Gear Wheel	0	4

No.	Name of Part.	Price. s.	d.
12	Side Plate or Cap	0	1
13	Piston to Lock Handle Lever.....	0	2
14	Screw for Side Plate.....	0	2
15	Screw for Driving Stud Spring ...	0	2
16	Spring for Driving Stud	0	2
	Wood Base for Machine and Hand Appliance	7	0
	Oil Dripper—Cast Iron	2	9
	Cast-iron Button or Catch	0	4
	Screw and Nut for fastening Hand Machine Cover	0	9

The following Table indicates the Sizes of the Threads and Needles which should be used together.

Size of Needle	Class of Work to Sew	Sizes of Cotton, Linen, or Silk
0	Very fine Muslins, Cambrics, Linen, &c. Tucking and Stitching.	100 to 150 Cotton.
1	Very fine Calicoes, Linen, Linen Shirtings, fine Silk Goods, &c. Tucking, Hemming, and Stitching.	80 to 100 Cotton. 24 to 36 Silk Twist.
1½	Shirtings, Sheetings, Bleached Calicoes, Muslins, Silks, & Gen'l Domestic Goods. All Classes of General Work.	60 to 80 Cotton. 24 to 30 Silk Twist.
2	All kinds of heavy Calicoes, light Woollen Goods, heavy Silks. Seaming, Stitching, &c.	40 to 60 Cotton. 24 to 30 Silk Twist.
2½	Tickings, Woollen Goods, Trousers, Boys' Clothing, Corsets, Cloaks, Mantles, &c.	24 to 40 Cotton. 16 to 24 Silk Twist.
3	Heavy Woollens, Tickings, Bags, heavy Coats, Trousers, &c., and heavy Clothing generally.	10 to 24 Cotton. 60 to 80 Linen.
4	Bags, Coarse Cloths, heavy Goods of any texture.	40 to 60 Linen. Very Coarse Cotton or Silk.

Always use good Cotton, because it makes better work, and is the cheapest in the end.

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