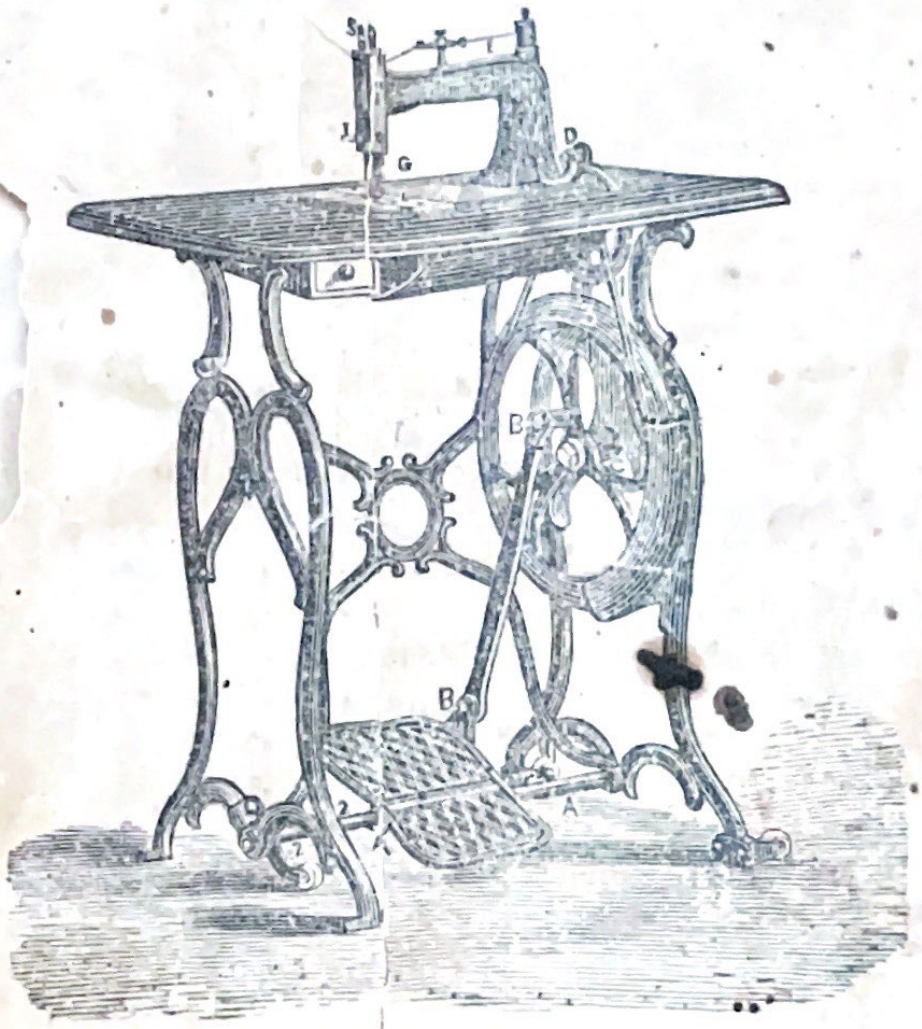


PLATE No. 1.

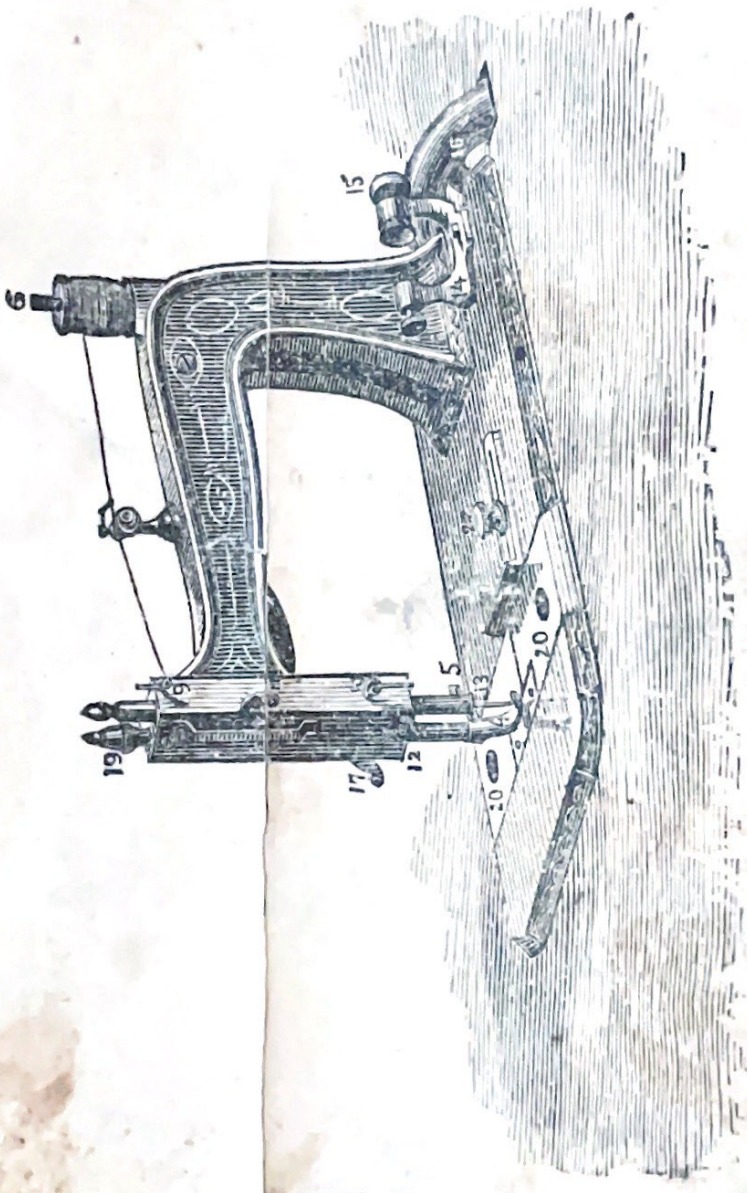


PLATE No. 2.

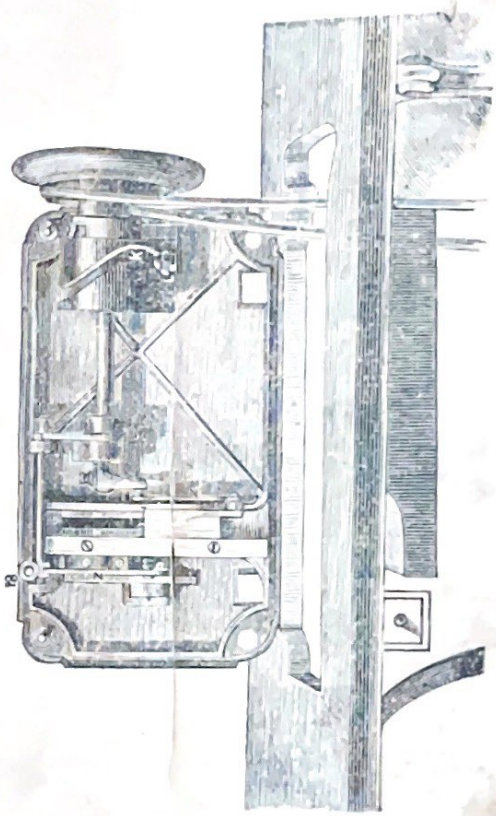


PLATE No. 3.

DIRECTIONS.

Starting the Machine.

OBSERVE closely the threading of the machine when received. See how the upper thread is passed through the holes in the tension-bar and the various eyelets; also, how the under thread is passed from the bobbin in the shuttle. Having placed the machine in the table, with the driving-belt on both pulleys (1, Plate No. 1), work the machine until the treadle motion becomes easy and uniform. Place the centre of the foot (one or both) directly over the treadle-rod (2-2, Plate No. 1), so that both heel and toe may be used in turning the machine. Start the machine by taking hold of the balance-wheel (3, Plate No. 1) with the right hand, always turning *from* you, con-

tinuing the motion thus given to the feet by a pressure of the heel and toe alternately. Do not attempt to sew until a regular motion is acquired. If it is difficult to get a regular motion at first, throw the belt off and operate the balance-wheel only, until a perfectly even motion becomes easy and natural. Then replace the belt and operate as before. Be careful that the presser-foot (4, Plate No. 2) is raised up when running the machine and not sewing.

Setting the Needle.

Loosen the screw at the lower end of the needle-bar (5, Plate No. 2) by turning it towards you with the screw-driver. Hold the needle with the thumb and finger (with the long groove to the left), and push the shank of the needle up into the needle-bar *as far as it will go*, and then turn the screw from you until the needle is firmly held; pass the thread through the eye of the needle from left to right. To sew *very* coarse cotton or linen thread, the needle may be set a little lower, — say one-sixteenth of an inch.

Threading the Machine.

Place the spool on the spool-pin (6, Plate No. 2) standing on the top of the arm, to the right

thread straight through both eyelets in the tension-bar, the thread lying straight and parallel with the tension-bar, and *back* of the tension-bar and its set-screw, and thence through the eyelet on front of the face-plate (9), and down through the eyelet near the bottom of the face-plate (10); thence through the hole in the thread-controller (11), under the spring on lower end of the face-plate (12), and under the spring on lower end of needle-bar (13), then through the eye of the needle, from left to right. Then turn the tension-bar from you once and a half or twice around, and fasten it by turning the set-screw on the top. If wheel tension is used, pass the thread under the spring between the two pins; then over and around the wheel; then continue to thread as above directed.

Threading the Shuttle.

Take the Shuttle between the thumb and finger of the left hand, with the frame swung back to the

right; place the bobbin in frame (see Fig. No. 1),

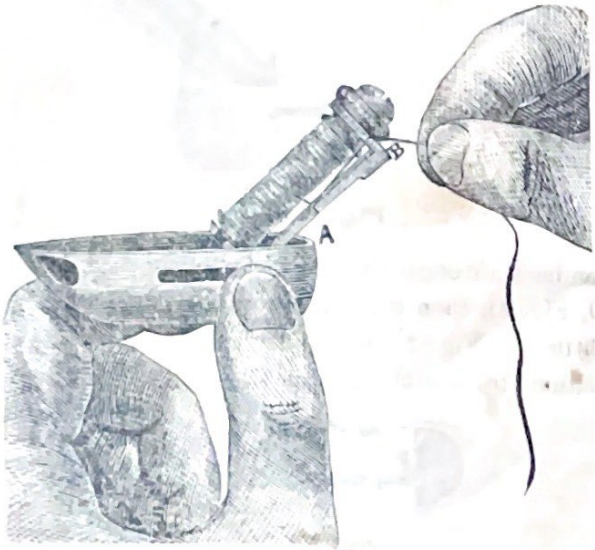


Fig. No. 1.

then pass the thread over the curved side and up through the thread-slot in side of frame (see A, Fig. 1), then through the thread-slot on the end of frame (see B, Fig. 1), then under and around once between the disk and end of frame (see C, Fig. 2),

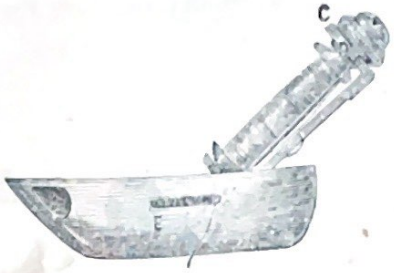


Fig. No. 2.

then back through the same slot in end of frame (D, Fig. 2), then thread out through the slot in shuttle (E, Fig. 2), and pull the frame down into position by the thread, as shown in Fig. No. 3,

Fig. No. 3.

pulling the thread through about two inches.

The tension of the shuttle is regulated by turning with the shuttle screw-driver (see Fig. No. 4)

Fig. No. 4.

the nut on the end of the frame. Turning from you as indicated by the arrows, thus, —

increases the tension. To *decrease* it, turn in the opposite direction.

To remove the shuttle from or place it in the carrier, draw out the slides (20-20, Plate No. 2), one or both.

Spooling the Bobbin.

Take the thread from the eye of the needle, or else remove the shuttle from the carrier, to avoid tangling the threads, and raise the presser-foot (4, Plate No. 2). Place the spooler (14, Plate No. 2) in such a position, that, when the bobbin is placed in the spooler, the rubber ring (15, Plate No. 2) will be crowded on to the top of pulley or balance wheel (16, Plate No. 2). Wind the bobbin from the spool on top of the arm, or from another spool put in its place, of the same size or number; work the foot-treadle the same as when operating the machine, taking care to wind the

bobbin in even, regular layers, like the ordinary spool if possible, — as careless, uneven winding renders good sewing impossible. Care should be taken, not only to wind the bobbins *smoothly*, but they should not be wound too full, — just even with the brass ends of the bobbins.

Operating the Machine.

With the needle raised to its highest point, place the work under the presser-foot (4, Plate No. 2), then drop the presser-foot by raising the lifter on the opposite side of the face-plate (17, Plate No. 2). Never commence sewing until the work is on the feed and the presser-foot dropped. Always start the machine by turning the balance-wheel (3, Plate No. 1) *from you*.

Regulating the Tension.

When the tension is right, the two threads are locked together and drawn to the centre of the fabric, as represented in Fig. 1, —

Fig. 1.

If the under thread is not sufficiently drawn up into the work to make the stitch alike on both sides, leaving it as represented in Fig. 2,

Fig. 2.

tighten the upper thread by turning the tension-bar (7-7, Plate No. 2) *from you ;* and if the upper thread is not drawn down enough, as represented in Fig. 3,

Fig. 3.

then turn the tension-bar *toward* you, until the upper and under threads are drawn into the work alike on both sides; but should the tension be so great as to break the upper thread, then the shuttle-tension must be lessened and the upper tension made to correspond. To tighten the under tension, turn the nut on the end of shuttle-frame from you : to loosen, turn the nut towards you, as explained under head of "Threading the Shuttle," on page 11. The upper thread draws up the lower stitch, while the under thread draws

down the upper stitch. ☞ *To make a perfect stitch, it will be found necessary to have the tensions of both threads as nearly alike as possible.*

Lengthening and Shortening the Stitch.

To lengthen the stitch, pass the hand under the table and turn to the left the nut, or Stitch-Regulator, on the vertical screw in front and below the machine (18, Plate No. 3). To shorten the stitch, turn the Stitch-Regulator to the right.

Missing Stitches.

If the machine is properly adjusted there will be no trouble; but should there, at any time, be skipped or long stitches at intervals, the occasion may be that the eye of the needle may be too small for the thread, or the point of the shuttle or needle may be dull: if so, they can be polished by a hone or needle-stone used in sharpening bat-

tered points of needles. The needle may be crooked so as to stand back too far from the shuttle, so that the shuttle does not catch the loop: if so, spring the needle gently towards the shuttle.

Breaking Threads.

When the machine breaks the upper thread, the needle is too fine for the thread, or the tension is too tight, or you may be using a large needle and thread with the fine throat-plate, the hole being so small that the needle cannot pass through without cutting or chafing the thread against the sides. Should the shuttle-thread break, make less tension on the shuttle.

Removing the Work.

Raise the needle to the highest point; take hold of the thread just forward of the tension-bar, and draw from the spool about three inches of slack thread, then raise the presser-foot and with the left hand draw the goods from the *back side outwards* about three inches, then cut both threads.

Size of Needle and Thread.

Machine-sewing does not require so coarse a thread as hand-sewing, every stitch being double.

Family sewing seldom calls for cotton coarse than No. 30; Nos. 50, 60, 70, 80, and 90 are mostl used. Silk is used with the same facility as cot ton. The size of thread to be used must corre spond with size of needle.

For No. 00 needle, use Nos. 100 to 150 cotton.
For No. 0 needle, use Nos. 80 and 90 cotton.
For No. 1 needle, use Nos. 60 and 70 cotton.
For No. 2 needle, use Nos. 40 and 50 cotton.
For No. 3 needle, use Nos. 30 and 36 cotton.
For No. 4 needle, use Nos. 20 and 24 cotton.

When very coarse or linen thread is to be used, set the needle one-sixteenth of an inch lower than for ordinary sewing.

Tightening the Band.

If the band becomes loose, so as to turn without driving the machine, it may be tightened by cutting off a piece where it is joined together, and fastening the ends again. The band should be thrown off when the machine is not in use.

Presser-foot.

The Presser-foot, or part that presses on the cloth when sewing (4, Plate No. 2), is regulated

by the screw on top of the presser-bar (19, Plate No. 2), by turning down for heavy goods and up for very light goods. The Presser-foot is raised by the little lever at the back of the face-plate (17, Plate No. 2). To raise the foot, press the lever down; to lower it, raise the lever up.

Plate Gauge.

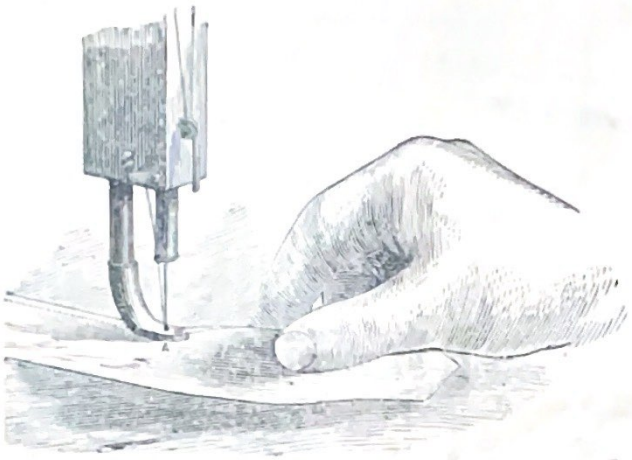
The Plate Gauge (21, Plate No. 2) is attached by the screw (22) passing through the long slot. Place the gauge the same distance from the needle that it is desired that the line of stitching should be from the edge of the fabric, and turn down the screw so as to secure it firmly in place. Keep the fabric *close up* to the face of the gauge while sewing.

Cleaning and Oiling the Machine.

When in constant use, all working parts of the machine should be well cleaned with cotton waste, and then oiled with the *best Sperm Oil* wherever there is friction, which is in the following places: See Plate No. 1, — The bearings of the treadle, A A; the pitman, B B; the two holes in fly-

wheel, C; the hole just behind the bobbin-winder, D, and between the spool-post and tension-bar E; also the hole where the gauge-screw fastens on, F; the needle-bar, G; the slot in controller, H; the lifter of the presser-foot, back of the face-plate, I; the shuttle-race and face of shuttle (to get at that, remove slide J). Then throw off the driving-belt, and turn the machine back on the table, as represented in Plate No. 3. Oil the slot in the cam K, the cam-roller L, the bearings of the eccentric M, connecting shafts of shuttle-carrier and feed N N, the bearings of the feed where there is friction, especially the flat spring where it bears against the bed-plate O, the piece that moves the feed back and forth, P. The shuttle-driver race T T.

It is very necessary that all the wearing parts be frequently oiled. The shuttle-race (remove slide J, Plate No. 1), the slide-slot in controller H (Plate No. 1), the needle-bar G (Plate No. 1), and presser-bar, S, should be oiled *very often* when the machine is in constant use. Do not apply too much oil: a surplus is almost as objectionable as a deficiency.

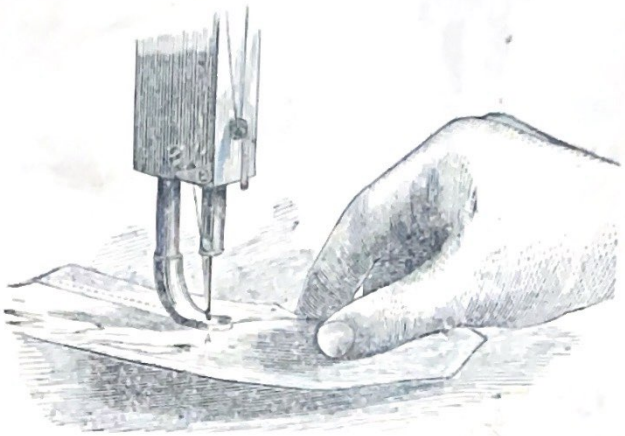


Hemming (Narrow Hem).

Take the Presser-foot off, and fasten the hemmer to the presser-bar, in place of the foot, in the same manner that the foot was fastened. Be sure that the hole (A) in the hemmer is directly over the hole in the needle-plate.

Pass the edge of the cloth into the hemmer in the manner shown in the illustration, drawing it through the hemmer as far as the *needle-hole* (any sharp-pointed instrument, a needle for instance, can be used to do this, if necessary); raise the presser-bar while doing this. Then drop the presser-bar, and operate the machine as usual. Hold the goods with the *right* hand, as shown in the illustration. *Should the edge of the goods be-*

gin to run out of the hemmer, carry it to the RIGHT; should too much run into the hemmer, carry the edge to the LEFT.



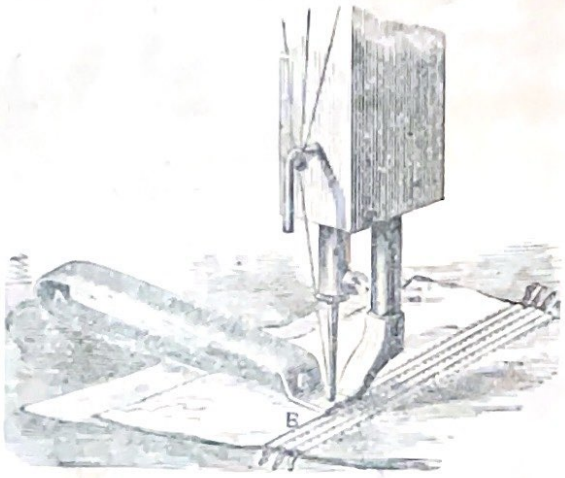
Hemming (Wide Hem).

Fold (by hand) the width of hem required, turning ONE fold only, adding about one-eighth of an inch, which will be turned under by the hemmer. Introduce the edge of the cloth in the same way as for a narrow hem, and proceed in the same way, holding the goods in the *right* hand (in the manner shown in the illustration). *Should the edge of the cloth begin to run out, carry it to the LEFT; should too much run into the hemmer, carry the edge to the RIGHT.*

illustration), and stitch it upon the goods as in ordinary sewing. Braid should be used the same width of the slot in the braider.

Gathering.

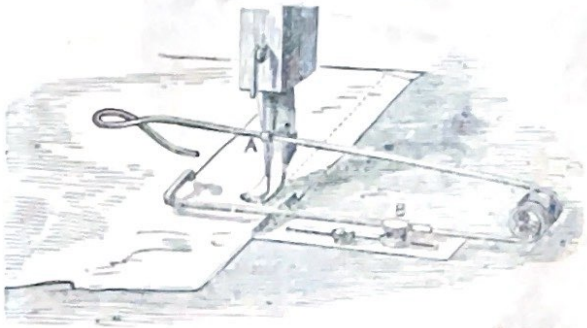
Run the machine slowly with a loose upper tension, leaving under tension same as in ordinary sewing; make the stitch very long, and sew about one-fourth of an inch from the edge, then draw the under thread.



Corder. Price $2.00.

Thread the cord through the eyelet at the end of the Corder (shown at A in illustration), thence

through small tube or cord guide (B), drawing two or three inches of the cord through the guide. Attach the Corder so that the needle will pass through the centre of small hole (C) in cord-presser or thick end of Corder. After the cloth has been prepared, either by creasing or stitching a seam, place the cloth one thickness over and the other under the cord-guide, and the whole under cord-presser. Press the cloth to the left as far as it will go, then let down the presser-foot, and stitch as usual, keeping the goods well to the right while sewing.



"Goodrich" Tucker. Price $3.00.

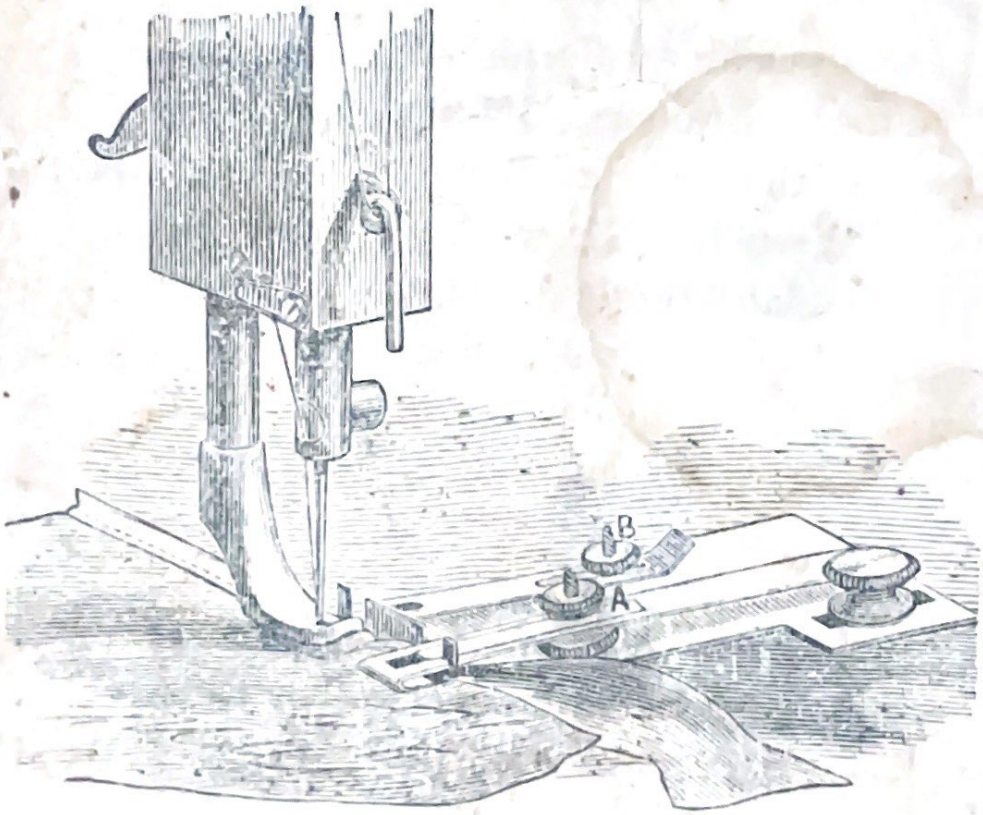
Attached to the Tucker-wire is a small hook with an eyelet; slip this over the needle and up to the bottom end of needle-bar (as shown at

A in illustration). Put the gauge-screw through the slots of gauge and Tucker (B), and turn nearly down; and, after having adjusted all to the desired width of tuck, turn the screw down firmly.

The rule to take any width of tuck when you wish to have the edge of tuck just meet the line of stitching, is to place the gauge of the Tucker to right of the needle just the width of the tuck desired, and then move the creasing-blade of the Tucker twice the width of tuck to left of the needle. If a space between the tucks is desired, move the creasing-blade just as much farther to the left as you would have space between.

After having made the *first tuck*, and folded the next one by the crease just made, and having placed it under the gauge, put the edge of the said *first tuck* under the small *horizontal spur*. This prevents it from running upon the creasing-blade, thus insuring a better crease in the cloth, because *only two* thicknesses are passing over the creasing-blade, instead of *four*, as in the case when the edge of the tuck *just made* is not put under. This arrangement of the cloth in the Tucker assists very much in guiding the cloth straight, and keeping it to the gauge. Never run the machine with the presser-foot up when the Tucker is attached.

place by the ordinary gaug
The piece of cloth which is to form the
should pass through the baster, over A, and under
B and C, and also under *both parts* of the Ruffler.
The piece of cloth which is to form the *binding*
should pass over B and under C, and between the
plates of the Ruffler. Turn the screw to the right
until the plates of the Ruffler are so far apart that
e cloth is gathered very little, if any. Then, by
rning the screw to the left, regulate the gather-
ng as desired.



"Chaplin's" Binder. Price $3.00.

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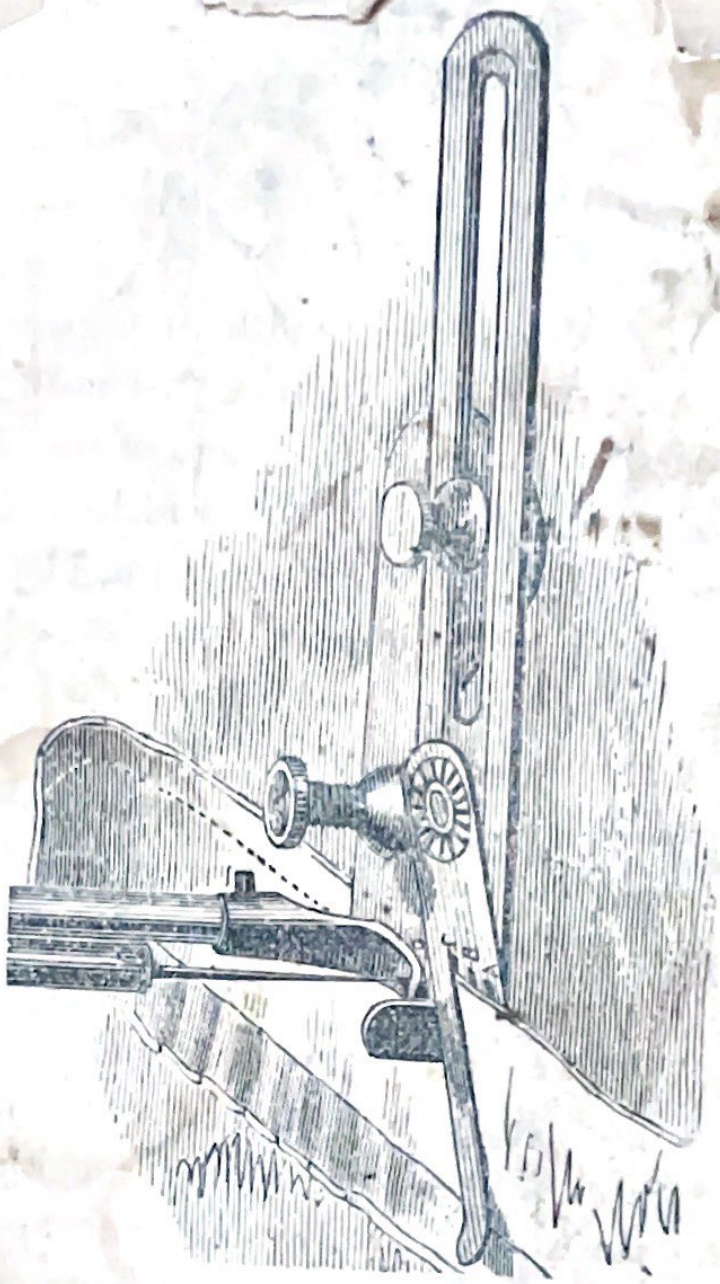

Crandell's Ruffler. Price $1.50.

The Ruffler should be so placed on the plate of the machine that the needle may pass through the centre of the hole (D). The baster is placed over the Ruffler, as a guide for the cloth, and both

atta