

### GENERAL DIRECTIONS.

Before the machine leaves the factory, it has been carefully inspected and adjusted, and tested with various sizes of thread, ranging from No. 40 linen to No. 150 cotton, and found to work perfectly in every respect.

Never run the machine with the presser foot resting on the feed, and no cloth between, as the sharp teeth of the feed would injure the foot and the feed teeth will be dulled.

Never run the machine with the race covers open, except to turn the wheel very slowly by hand, or the shuttle will catch and cause serious injury to the machine.

Practice on strips of cloth and do not attempt practical sewing until you can guide the material and produce a regular motion.

Do not try to help the feed by pulling the work lest you bend the needle. The machine will feed without assistance.

Do not run the machine when threaded up unless there is cloth under the pressure foot, or the thread will snarl and tangle, and perhaps bend or break the needle.

Do not allow lint or dust to accumulate in the shuttle or under the shuttle tension spring, as any substance inside the shuttle will prevent the proper action of the bobbin, or under the spring will interfere with the tension.

To turn a corner, stop the machine with the needle half way in the work, raise the presser foot, and turn the work, using the needle as a pivot.

When ordering needles, shuttles or parts of any kind always give plate number of machine stamped on the upper side of front race cover of slide directly in front of the needle.

### Certificate of Warranty.

THIS

Sewing Machine No. 813107

Sold to

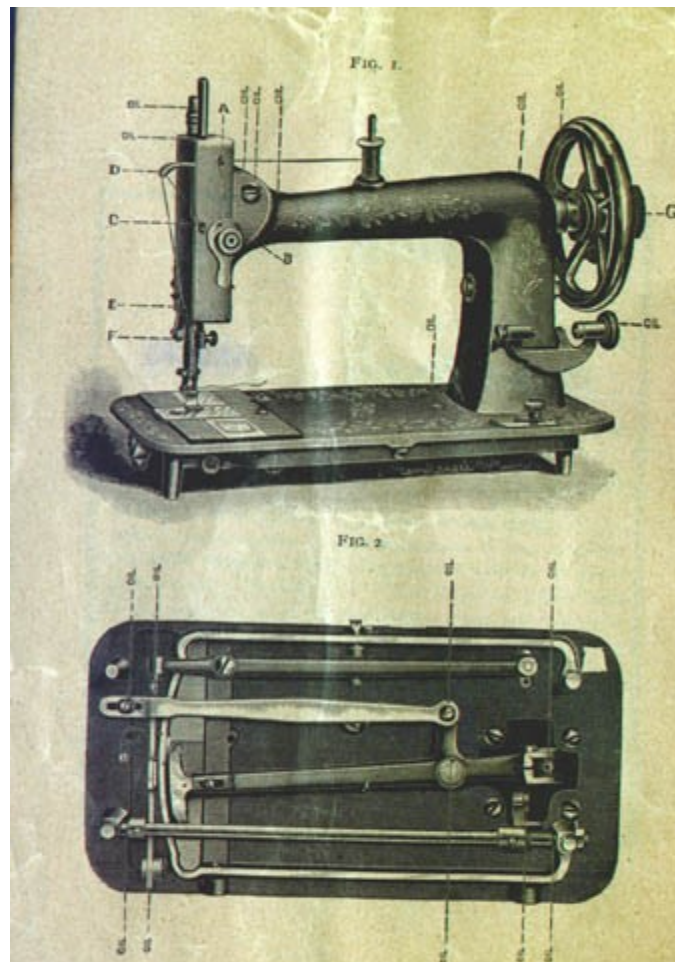
By

Is hereby warranted to be of good material and workmanship, and if used according to our printed instructions in family sewing only, kept properly oiled, and used with reasonable care, it will be kept in good sewing order for five years without charge to the purchaser, upon presentation of machine at our office with this guaranty unaltered or defaced.

*This Warranty does not include Shuttles, Needles, or Accessories.*

Dated at this day of 1





## TO OIL THE MACHINE.

(See FIGS. 1 and 2, page 2.)

One of the most important points in the use of a sewing machine, is keeping it thoroughly oiled, as care in oiling insures ease of motion and prevents wear. Use nothing but the best quality of oil.

Each place requiring oil is indicated on the cuts on page 2, opposite, by the word "oil," with dotted line running to the point where oil must be applied. Oil holes will be found for all the bearings which cannot be reached without them.

To oil the parts inside the head: Raise the needle bar to its highest point, put one drop of oil on each side the needle bar, and one drop in each of the oil holes in bed plate and arm, as indicated in Fig. 1.

To oil the under part of the machine: Throw off the belt, turn back the head on its hinges and apply oil at each point indicated on Fig. 2.

The places on the stand requiring oil, are the journal of balance wheel, the bearing at each end of pitman, and the bearings the of treadle on each side.

After oiling, run the machine swiftly several revolutions, to distribute the oil, and then wipe carefully. Be sure that every part is clean before commencing to sew.

If the machine runs hard, it is certain that some bearing is not properly oil. If the machine is gummed from poor oil, or from long standing, use a little kerosene or benzine which will soon remove the gum. Then run the machine rapidly, wipe clean, and oil thoroughly with good sewing machine oil.

## TO THREAD THE MACHINE.

(See FIG. 1, page 2.)

First raise the needle bar to its highest point. Place the spool of thread on the spool pin (See Fig. 1); draw the thread through the hook A and down between the tension disks B, then up through the hook C, up through the take-up eye D, then back of the staple E in the face plate, drawing the thread forward through the staple; then through the hook on the needle yoke F; then through the eye of the needle, leaving the thread about three inches long.

### TO THREAD THE SHUTTLE.



Hold the shuttle in the left hand, with the point toward you; drop the bobbin into the shuttle so that the thread in sewing will draw from the under side; then draw the thread into the open slot B toward you, at the same time putting a little pressure with your finger on the bobbin, so that it can not turn; the thread will then be forced under the point A of the shuttle spring. The shuttle is then ready for use.

The shuttle tension is tightened by means of the screw C with the small screw driver,—turn this screw to the right to increase and to the left to diminish the tension on the thread. When the machine leaves the factory, the tension in the shuttle has been set right for all ordinary kinds of work and thread, and therefore needs no alteration. The bore of the shuttle should be kept clear of lint so the end of the bobbin does not project outside the shuttle.

### To Place Shuttle in the Machine.

Withdraw the front race cover and place the shuttle in the carrier with the point toward the operator; then close the slide. It is sometimes more convenient to withdraw the back race cover and put the shuttle in its place when the carrier is at the back part of the race. This is especially the case when some of the attachments are in use.

### THE SHUTTLE RACE.

The face of the shuttle race must be kept clean and free from dirt or gum. To do this, rub occasionally with a piece of cloth having a drop of oil on. Afterwards wipe it with a dry, clean cloth. If through neglect the race has become very gummy, first clean it with a cloth saturated with kerosene; then use an oiled cloth, and a dry, clean cloth as above. Breaking of thread and skipping of stitches are frequently caused by failing to keep the shuttle race clean.

### WINDING BOBBINS.

(See FIG. 1, page 2.)

To use the winder, first hold the hand wheel with the left hand, and with the right hand turn the nut "G" (FIG. 1, page 2) from you. This loosens the hand wheel so it will turn without moving the mechanism of the machine head. NOTE—The nut "G" is marked on its face with arrows showing which way to turn to tighten and which way to loosen the mechanism.

To bring the winder in position for winding, press the spooler rubber against the wheel, where it will be held by a spring. Place one end of the bobbin in the socket of the revolving spindle on the right hand side of the winder, and the other end in the socket of the step on the left side. Place the end of the thread between the brass head of the bobbin and the spindle on the right side. Turn the hand wheel in the same direction as when sewing, holding the thread smoothly about four inches from the bobbin, and moving the hand back and forth to wind even. An evenly wound bobbin is very essential to good sewing. Take care not to fill the bobbin too full, or it will not revolve freely in the shuttle.

Before commencing to sew, push the winder down from the hand wheel where it will be held in position automatically. Turn the hand wheel clutch knob "C" towards you tight, to put machine in gear for sewing.

### SETTING THE NEEDLE.

Raise the needle bar to its highest point; hold the needle between the thumb and first finger of the left hand and pass the shank up through the hole in the needle yoke as far as it will go, with the flat side to the needle bar. Secure the needle firmly by the nut. IF LINEN OR SILK OR VERY COARSE COTTON IS USED, THE NEEDLE MAY BE SET A LITTLE LOWER THAN DIRECTIONS INDICATE.

### BREAKING OF NEEDLES.

If the needle breaks it is more than likely your own fault, caused by pulling the goods to or from you, or in such a manner that the needle strikes the throat plate, and is bound to break. The needle may, however, break in trying to sew extremely heavy seams when the pressure on the presser foot is not heavy enough. To create more pressure upon the goods, turn the presser nut on the top of the presser bar to the right; to decrease the pressure turn it to the left. A blunt or hooked point needle will cause trouble and bad work.



## COMMENCING TO SEW.

The machine being fully threaded above and below, as directed, raise the presser bar, and raise the needle to its highest point. Place the goods under the presser bar with the needle directly over the point where you wish to begin stitching. Lower the presser bar by the presser lifter and start the machine by turning the hand wheel towards you. In sewing heavy or hard fabrics, greater pressure is needed on the presser foot than for light goods. The pressure is regulated by the adjusting nut on top of the presser bar. Turn this nut to the right, to increase the pressure, or to the left to decrease it.


## To Remove the Work from the Machine.


Stop the machine with the needle at its highest point. Raise the presser foot, and with the right thumb, press back on the tension release on upper tension. With the left hand, draw the work out directly back of the needle.

## TO ALTER LENGTH OF STITCH.

The stitch regulator is in front of the base of arm. On the stitch regulator plate is a scale of numbers indicating the length of stitch. The Nos. 7, 10, 16, and 24 give the number of stitches to the inch. To adjust the stitch, loosen the nut by turning to the left, and slide the indicator to the length of stitch desired on the scale. No. 7 gives the longest stitch, and No. 24 the shortest stitch. You can vary the stitches from the scale by setting the indicator between the numbers. Be sure to fasten the nut tight when set properly.

## THE TENSIONS.

The object to be attained is to have the stitch alike on both sides of the fabric. This is accomplished by the tensions, or strain upon both threads. The tension upon both threads should be as nearly alike as possible, and tight enough only to make a smooth firm seam. If the threads are of the proper size for the material used, and both tensions right, the threads will be drawn and locked together in the center of the goods, thus: 

If the upper tension is too loose (or the lower one too tight) the lower thread will lie straight along the under side of the goods, thus:  the upper thread showing in loops on the under side. On the contrary, if the upper tension is too tight, (or the shuttle tension too loose), the upper thread will lie straight on the upper side of the goods, thus:  the lower thread showing in loops on the upper side.

To tighten the upper tension turn the tension nut to the right.  
To loosen the upper tension turn the tension nut to the left.

As the shuttle tension has been set right for general work when the machine leaves our hands, as before explained, any needed regulation of the stitch in this respect, should ordinarily be made by changing the upper tension. If, however, when the upper tension is regulated so the lock is in the center of the goods, both threads appear to be loose, and the stitches and seam not smooth and firm, the shuttle tension is too loose, and should be tightened by turning the tension screw C to the right (see Pro. 5, page 4): tighten the upper tension correspondingly.

If the under thread cannot be properly drawn up without having the upper tension so tight that the thread breaks, or if, when the tensions are evenly balanced, the goods are "drawn" or "puckered" (this will occur only in sewing very light and "slary" fabrics) the shuttle tension is too tight and should be loosened by turning the shuttle tension screw C to the left; then loosen the upper tension to correspond.

The above particular explanation is given that every operator may fully understand the principles of the tensions.

### USE GOOD NEEDLES AND THREAD.

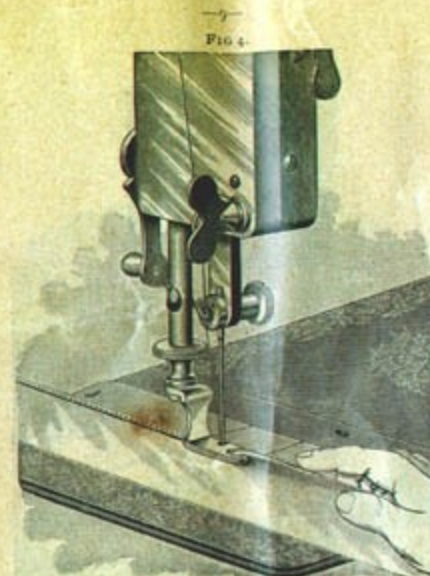
Do not use poor thread or needles. Any good thread will work well, but you must not expect to make a smooth, even stitch with poor, rough thread, nor can you expect a machine to work well with a cheap grade of needles, made in imitation of ours. As our interest is to maintain the reputation of the machine, it is evident that we will always supply the best. If you cannot secure the right kind of needles from a dealer at home, send, by mail, to the factory, enclosing the money order or stamps and we will fill the order promptly by mail or express. When ordering state size needles desired, and give the plate number of your machine on front shuttle slide, directly in front of the needle.

### Relative Sizes of Needles and Thread.

Size of Needle	CLASS OF WORK TO SEW	Size of Cotton, Linen, or Silk.
80	Very thin Muslin, Cambrics, Linen, etc.	100 to 200 Cotton, 100 and 60 Silk Twist.
90	Very fine Calicoes, Linens, Shirtings, fine Silk Goods, etc.	75 to 100 Cotton, 60 Silk Twist.
100	Shirtings, Sheetings, Bleached Muslins, Calicoes, Silk, and general domestic goods, and all classes of general work.	50 to 60 Cotton, A and B Silk Twist.
110	All kinds of heavy Calicoes, light Woolen Goods, heavy Silk, Seaming, Stitching, etc.	35 to 45 Cotton, C Silk Twist.
120	Tickings, Woolen Goods, Trousers, Boys' Clothing, Corsets, Cloaks, Mantles, etc.	25 to 35 Cotton, D Silk Twist.
130	Heavy Woolens, Tickings, Bags, Heavy Coats, Trousers, etc., and Heavy Clothing generally.	20 to 25 Cotton, E Silk Twist, 30 to 40 Linen.

### TO TAKE OFF THE PRESSER FOOT.

Raise the needle bar to its highest point, unscrew the nut just above the presser foot by turning to the left, until the foot is loosened, when it can be drawn off towards you.



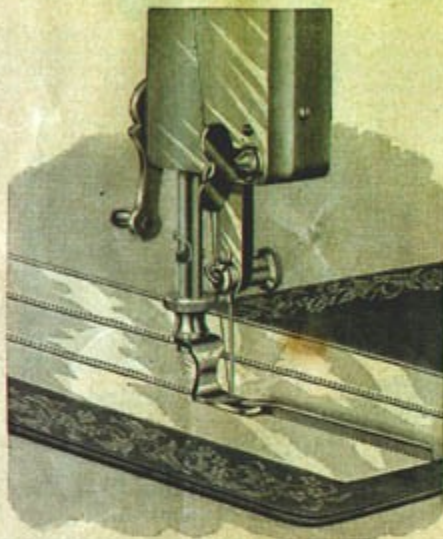
### NARROW HEMMING.

Attach the hemmer foot in place of the presser foot, taking care that it stands true, and straight with the feed. Raise the hemmer to the lowest lift, clip off the right hand corner of the cloth, and turn up the edge about one-fourth of an inch. Insert it in the scroll (or mouth) of the hemmer, and push it forward to the needle. Then let the hemmer down and start the machine, gently holding back on the work to keep it smooth, allowing the edge of the goods to pass between the thumb and forefinger of the right hand while it is being hemmed, keeping the scroll of the hemmer just full, as it will leave a raw edge and make a rough and clumsy hem if there is too much turned in, and too little will not turn under. In hemming a curve, flannel or slazy goods, draw gently on the edge being hemmed, resisting the feed, and guide the work carefully.

The stitch may be laid close to the edge of the hem, or away from it by setting the hemmer to or from the needle, by swinging the hemmer to the right or left. Practice is necessary with both hemming and felling before a neat seam can be produced.



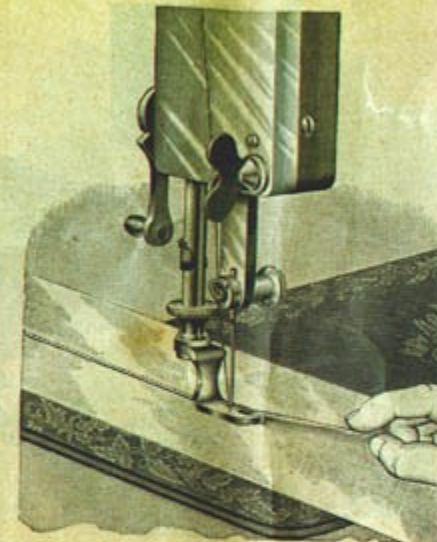
FIG. 5.

**FELLING.**

The foot hemmer and feller is attached in place of the regular presser foot as shown above, and is the same attachment used for narrow hemming as described on page 9. If the hemmer and feller is attached it can be used in the place of the presser foot in running up the seam, the under edge of which should project about one-fourth of an inch beyond the upper, then trim off the edges, if necessary, so as to leave just seam enough to all the feller. Open the work flat, wrong side up, and trim the corner of the seam slightly, and then push it into the feller until it reaches the needle, lower the feller on the feed and start the machine. The feed will carry the seam without helping it, and makes a complete fell from the beginning.

The feller may be adjusted to the right or left, so as to sew close on the edge of the fell, or away from it as desired.

FIG. 6.

**Making Wide Hem with Hemmer and Feller.**

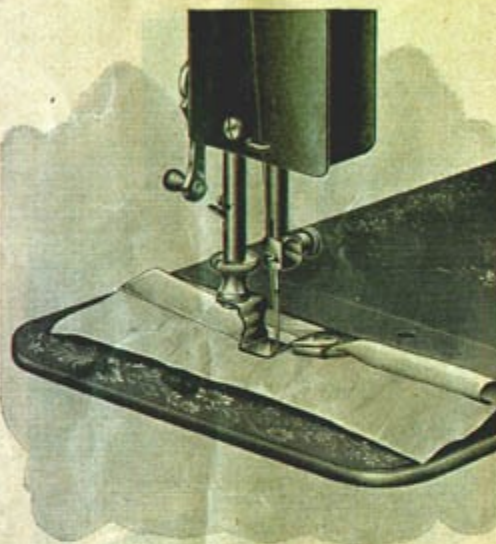
If a wider hem is desired than can be made with any of the hemmers, proceed as follows:

Adjust the hemmer and feller as described on page 9.

Fold the cloth the width of the hem desired and place the fold to the right of the needle so that the edge of the folded part will easily enter the scroll of the hemmer and feller. Proceed as in ordinary narrow hemming, as described on page 9, taking care to keep the fold smooth by holding the edge of the fold between the thumb and fingers of the right hand, as shown in cut above.

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FIG. 7.



### WIDE HEMMERS.

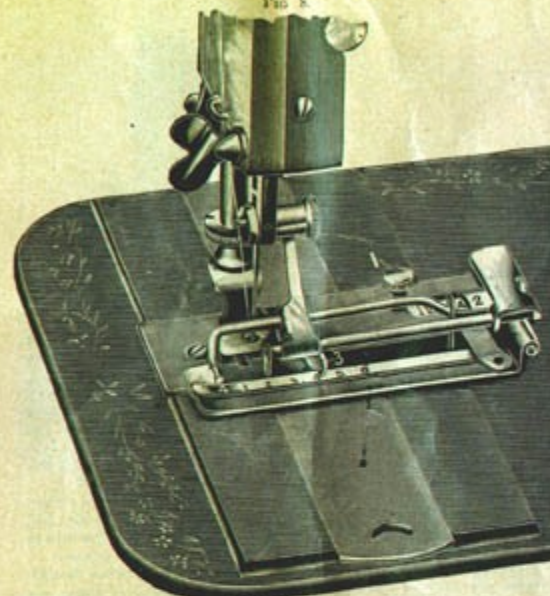
Four widths of hemmers accompany each machine.

Fold the goods 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. Then insert the goods in the hemmer, forcing it back until the needle will catch the edge of the goods. Lower the presser foot and sew as usual. Slightly press on the goods with the two forefingers of the left hand. If more goods are required to fill the hemmer and turn the edge properly, slightly carry the goods to the right. If too much goods are taken, carry to the left.

The line of stitching can be adjusted to the edge of the hem by moving the hemmer to the right or left.

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FIG. 8.



### TUCKING.

Raise the presser bar to its highest point. Remove the presser foot and attach the tucker in its place so that the needle passes down through the center of the round hole in the foot of the tucker, then fasten it securely in this position.

To regulate the size of tuck, loosen screw (1) and place the gauge for any desired width, moving to the right for wide and to the left for narrow tuck.

To regulate the space between tucks, move the marker (4) to the left for wide space and to the right for narrow.

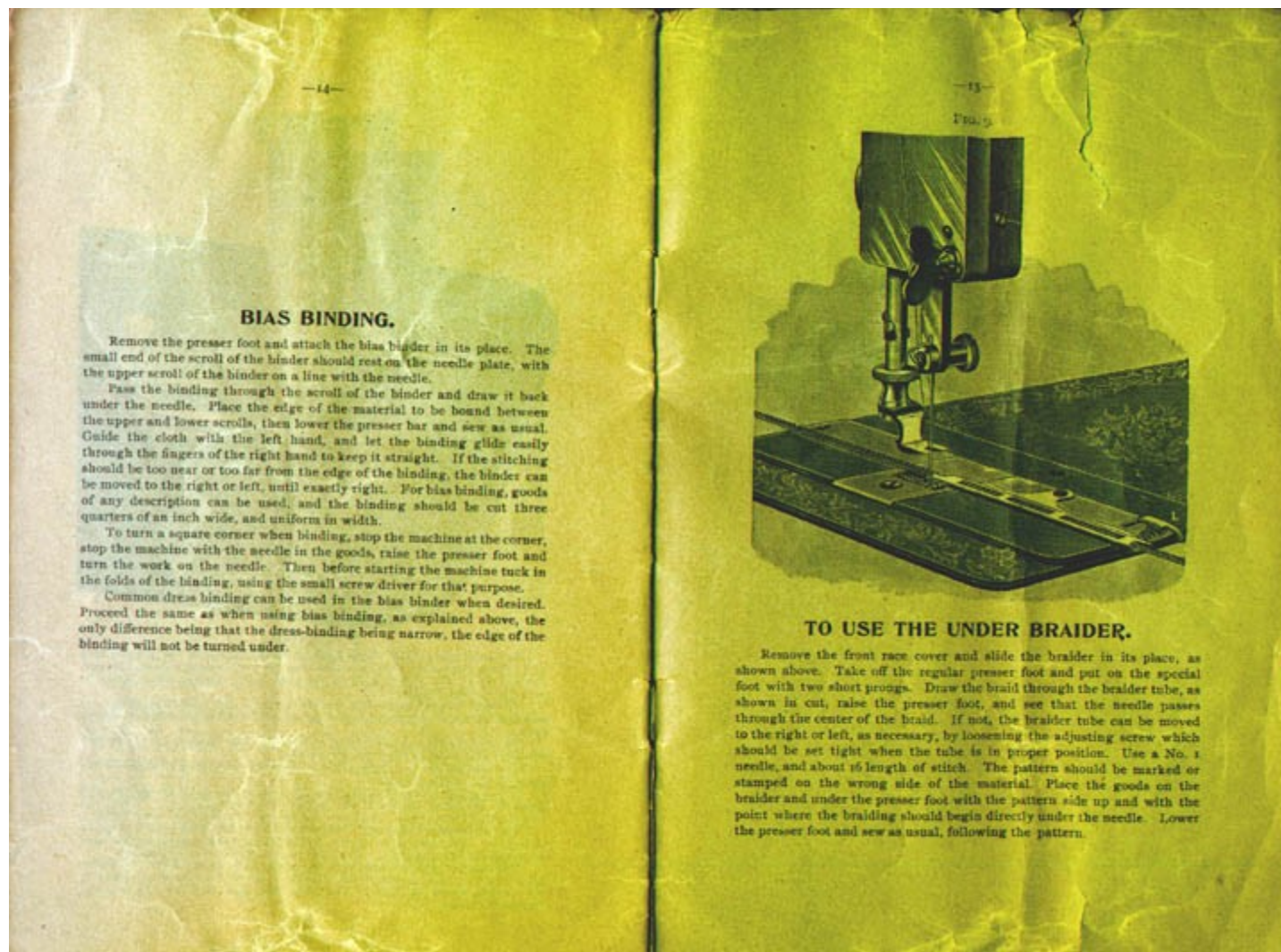
The figures on the scale (2) show the width of tuck, and those on the scale (3) the width of space.

By adjusting gauge (2) and gauge (3) so that the scale indicators will point to the same figures it will make the tucks just meet. When the above adjustments have been made, be sure and turn screw down tight.

To Commence Tucking.—Fold the cloth for the first tuck and place it beneath and (under the spring lip in front of the creaser) with folded edge against the gauge (3). Drop the presser foot and sew as usual.

The marker makes a crease in the cloth as it passes over the blade; after the first tuck is completed, fold the cloth on the crease and place in the tucker again as before. Continue this operation for the required number of tucks.





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