



# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN QUILTING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 131,443, dated September 17, 1872.

*To all whom it may concern:*

Be it known that we, Mrs. AUGUSTA HOOVER, of Bethlehem, in the county of Hamilton, and WILLIAM ARTHUR NICHOLS, of Zionsville, in the county of Boone, both in the State of Indiana, have invented a Quilting Attachment for Sewing-Machines, of which the following is a specification:

### *Nature and Objects of the Invention.*

Our invention relates to a sewing-machine attachment to be used in quilting. The said attachment consists of a stationary and a moving frame, the former constituting a support and guide for the latter, and the latter being provided with rollers for holding the material to be quilted. The moving frame or carriage is provided also with supplemental rollers for pressing the material evenly to the cloth-plate, and with devices to facilitate the insertion, adjustment, and removal of said rollers, and with appliances for controlling and operating the main quilt-rollers.

In the accompanying drawing, Figure 1 is a top view of the apparatus. Fig. 2 is a longitudinal section at *x x*, Fig. 1. Fig. 3 is an end view, partly in section. Fig. 4 is a transverse section at *y y*, Fig. 1. Figs. 3 and 4 illustrate the mode of applying the attachment to sewing-machines of different constructions, as hereinafter explained.

The stationary frame consists of two strong continuous rails, *A A'*, fastened together and stayed firmly by means of cross-pieces *a<sup>1</sup> a<sup>1</sup> a<sup>2</sup> a<sup>2</sup>*. Said cross-pieces hold the rails at proper distance from each other, and prevent their springing. On the inner sides, at the bottom edges of the rails *A A'*, are tracks or guide-ways *a a*, said tracks to be made of metal or hard wood. The tracks *a a* being placed in the position here mentioned, allow the carriage *B*, described below, to pass between the rails *A A'*, which thus serve also as side guards, preventing the carriage from being accidentally thrown off the track. The frame thus constructed is fastened firmly to the sewing-machine table by screws, clasps, or other suitable means. The cross-pieces *a<sup>1</sup> a<sup>1</sup>* are designed to rest on the top of the table of all sewing-machines which have the cloth-plate considerably elevated, as the Wheeler & Wilson,

Florence, and others; but on machines where the cloth-plate is not so elevated said cross-pieces either pass under the table or are placed further apart, so as to allow the rails *A A'* to rest upon the table. There can be no fixed or uniform shape for every part of this stationary frame to suit all makes of machines; but, by slight and unimportant variations in its construction, our invention can be accommodated to any and all machines which have room underneath the arm to admit one of the quilt-rollers. In the construction of this stationary frame, and also in attaching it to the sewing-machine, care must be taken to have it of proper height and adjustment to allow the rear quilt-roller—placed in carriage, as explained below—to pass centrally in the space under the arm. To allow the rear roller to thus pass under the arm, the frame must, of course, always sit at right angles to the arm. The moving frame or carriage *B* has small grooved wheels *W* underneath, moving upon the tracks *a a* of the stationary frame. To the ends of this carriage are attached, by means of screws, the collar-plates or bearings *H*, in which rest and revolve the spindles *I*. On the sides of the carriage *B*, near its corners, are small guides *b<sup>3</sup>*, made of metal or hard wood, and designed to make the grooved wheels *W* return centrally upon their tracks when playing back and forth. The quilt-rollers *b b<sup>1</sup>* are readily placed in or removed from the carriage *B*. The spindles *I*, being cast, each, with a long screw, are screwed firmly into the ends of the quilt-rollers. The small rollers *b<sup>2</sup> b<sup>2</sup>* are designed to press the quilt evenly to the cloth-plate. These have their bearings in slotted plates *P P*, secured adjustably to the carriage *B* by means of screws set in their slots so that they may be moved up or down, as occasion requires. These plates *P* have the upper slot open at top, and the lower one terminates, at its upper end, in an enlarged opening, so that the plates may be removed by merely loosening the screws. On Wheeler & Wilson, Florence, and other machines which have cloth-plates considerably elevated, the rollers *b<sup>2</sup> b<sup>2</sup>* are placed at the edges of the cloth-plate, pass under the quilt, and press it up, so that it passes evenly over the cloth-plate, (see Fig. 4;) but on Weed and other machines

which have their cloth-plates not so elevated, said rollers pass over and press down the quilt evenly to the cloth-plate. (See Fig. 3.) The rollers  $b$   $b^1$   $b^2$   $b^3$  are to be made of the stiffest kind of wood. The quilt-rollers  $b$   $b^1$  are provided, each, with a strip of strong muslin or other suitable material about six inches wide. These strips are fastened at one edge permanently to the rollers; and to their loose edges the quilt is to be fastened by means of small hooks, or by tacking with needle and thread. These strips are wide enough to reach from the rollers to the needle, thus allowing the quilt to be quilted close to its edges. The quilt is always passed to the under side of the rollers  $b$   $b^1$ , as shown in Figs. 3 and 4. The right-hand end of the carriage B is considerably heaviest, owing to the appliances attached there. For [this reason the intermediate grooved wheels on the under side of carriage B are placed eight or ten inches nearest the right-hand end, (keeping them two feet apart, as explained below,) and the rails A A' project the same distance furthest toward the right. To make the carriage B run steady and not tip or jostle, the intermediate grooved wheels underneath it are placed two feet apart, and the rails A A' of the stationary frame made a little more than two feet longer than the carriage B, so that the intermediate wheels will not pass off the tracks  $a$   $a$  when playing back and forth. At the right-hand end of the carriage B are devices for operating the quilt-rollers  $b$   $b^1$ . C is a cog or tooth wheel placed on square end of spindle of front roller. In the teeth of this wheel the worm D works. Worm D is set in a suitable case, D', which, by turning upon screw  $d$  at bottom and sliding on screw  $d'$  in slot near top, throws the worm in or out of gear with wheel C. The eccentric catch E holds worm D firmly in gear with wheel C. To prevent slipping out of gear, the case D' and catch E are notched or creased on their sides where they come in contact. The wheel F on right-hand end of rear roller  $b^1$  is composed of a drum or barrel, K, and a ratchet-wheel, L, which inclose and hold between them the hub  $l$  and the spring J, Fig. 3. The screws or bolts M N are inserted through the head of the drum K, and tapped into the wheel L, thus holding the parts together. One of said screws, M, projects beyond the drum to form a handle. The hub  $l$  is mortised, and fits on the square end of the spindle of rear roller  $b^1$ . The spring J is coiled in same manner as clock or watch spring, and is fastened at its inner end to hub  $l$  and at its outer end to drum K, or around screw M or N. The hub  $l$  revolves loosely between and independently of drum K and wheel L. The spring J being attached at its ends to parts which thus revolve independently of each other is wound or unwound by revolving one of the parts, the other meantime remaining stationary. The wheel F containing spring, as here described, is designed to keep the quilt in even and proper tension, and to take

it up or let it off the rear roller, according as the front roller is revolved by its appliances. The quilt being placed on the rollers, as elsewhere explained, and the worm D being in gear with wheel C, the spring J is wound up by taking hold of the handle  $f$  and revolving the wheel F. The catch G being then thrown in gear with wheel L prevents the spring from unwinding. In this manner the strength of the spring acts upon and revolves roller  $b^1$ . The handles  $c$  and  $f$  may be used in case it is desired to shift the quilt quickly or for any purpose to revolve the rollers  $b$   $b^1$  rapidly. When this is to be done the worm D and catch G must, of course, be thrown out of gear.

#### Operation.

First, fasten the stationary frame to the sewing-machine, in the manner elsewhere explained. Second, place the carriage B on the stationary frame, so that its grooved wheels rest on the tracks  $a$   $a$ . Third, fasten the quilt to the rollers  $b$   $b^1$ , as elsewhere explained. Then roll the quilt upon the rollers, being careful to roll it tightly and as smooth as possible. The rollers having the quilt thus rolled on them until they are within proper distance of each other are passed endwise, the rear roller under the arm and the quilt between the cloth-plate and foot of sewing-machine, until in position to allow spindles I to drop into collar-plates H. Fourth, the small rollers  $b^2$   $b^3$  are next placed under or over the quilt, as may be required, and as elsewhere explained. These rollers are put in or removed by taking off and replacing one of their slotted bearings, as previously explained. Fifth, throw worm D into gear with wheel C, after which wind the spring J and apply catch G, to hold it, in the manner already explained. Sixth, by turning the crank of worm D, shift the quilt, so that the machine will quilt first line where desired. Then start machine and quilt first line. If the sewing-machine has strong feed and the carriage B moves lightly the machine will move the carriage without being assisted by the hand. Seventh, cut the thread and, by hand, push the carriage back again. Shift the quilt by means of crank of worm D, as before, until the machine will quilt second line at desired distance from the first. Continue thus until the quilt is all quilted the first way. Eighth, remove quilt and rollers from the carriage in same manner as put in, loosen quilt from rollers, and then fasten it to them again, so as to quilt cross-wise. If the quilt is shifted from front to rear roller, as quilted, the spring J will have to be wound up as often as the tension begins to slacken; but if the quilt is shifted from rear to front roller the spring will have to be partially unwound as often as the tension becomes too strong.

To quilt biasly, corner pieces are tacked to the sides of the quilt, and thus fastened cornerwise to the rollers.

*Claims.*

The following is what we claim as new and desire to secure by Letters Patent:

1. The carriage B, provided with the customary rollers  $b$   $b^1$  for carrying the quilt, and with adjustable and removable plates P P, forming bearings for the supplemental rollers  $b^2$   $b^2$  for holding it in proper position on the cloth-plate, all substantially as described.
2. The cog-wheel C, worm D, case D', and

eccentric catch E, substantially as and for the purpose explained.

3. The spring-box F J K L M N, in combination with the roller  $b^1$ , substantially as and for the purpose stated.

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Witnesses:

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J. N. MCBRIDE.