(No Model.)

A. S. SIMONS.

GAGE FOR HEMMING.

No. 543,195. Patented July 23, 1895.

Fig. 1.

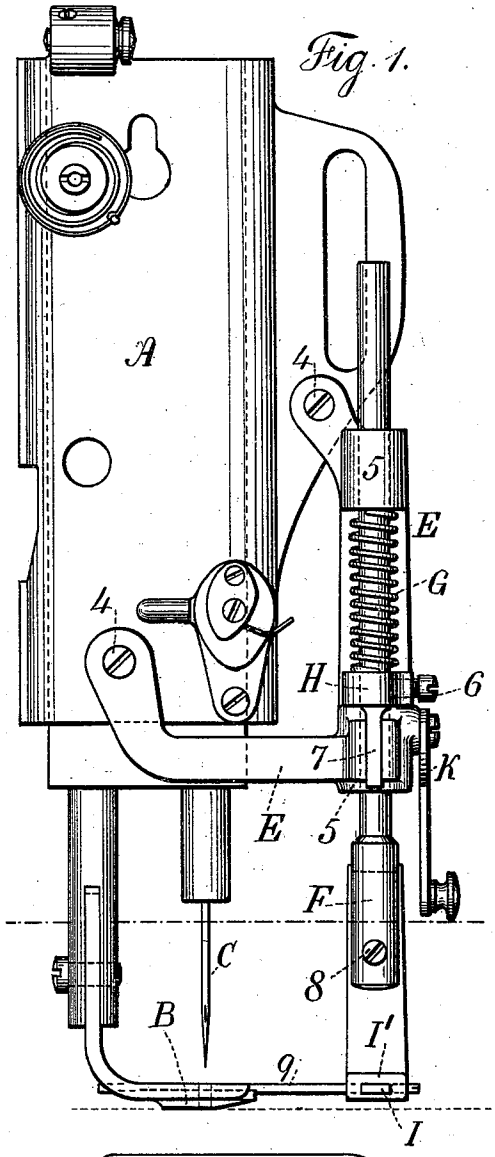


Fig. 2.

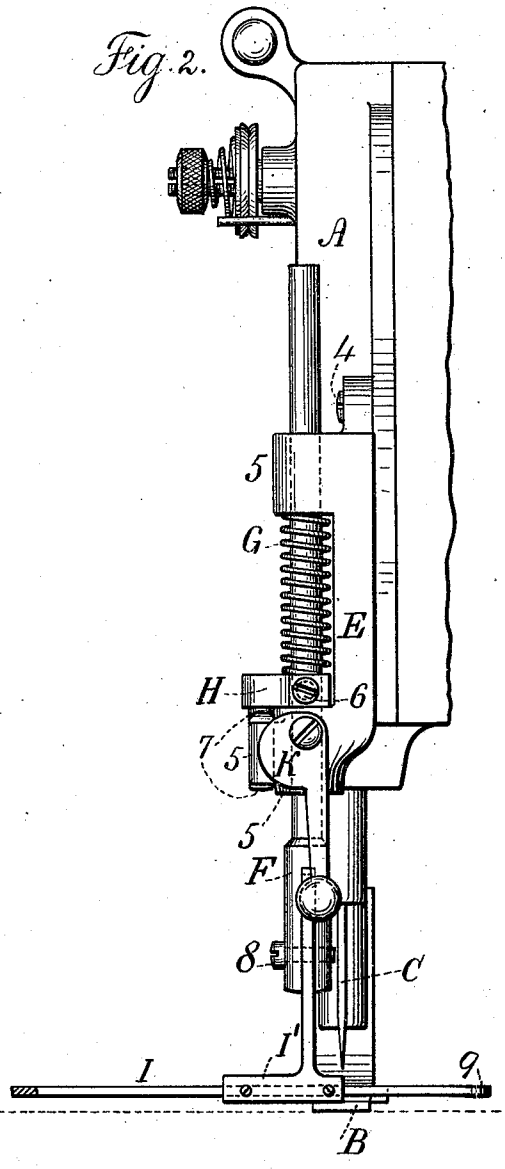
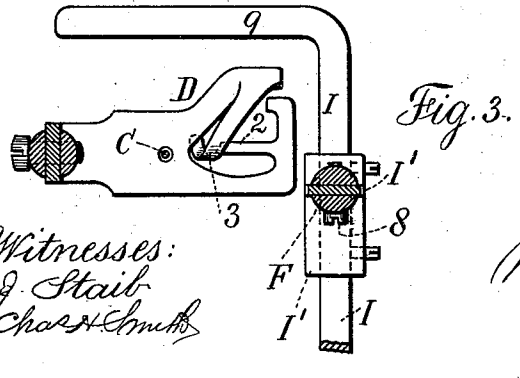


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALFRED S. SIMONS, OF PORT CHESTER, NEW YORK.

GAGE FOR HEMMING.

SPECIFICATION forming part of Letters Patent No. 543,195, dated July 23, 1895.

Application filed August 17, 1894. Serial No. 520,570. (No model.)

To all whom it may concern:

Be it known that I, ALFRED S. SIMONS, a citizen of the United States, residing at Port Chester, in the county of Westchester and State of New York, have invented an Improvement in Gages for Hemming, &c., of which the following is a specification.

Difficulty has heretofore existed in the use of hemming attachments upon sewing-machines, especially where the hem is of any considerable width, because the tendency of the feed is to move the body of the fabric more rapidly than the underturned edge of the goods. Consequently the hem is not run true and the edges of the fabric do not coincide at the end of the hem.

The present invention is especially designed for running wide hems upon ladies' underwear, children's dresses, pillow-cases, sheets, &c., and this gage or guide can also be made use of in running tucks and in quilting upon sewing-machines. I make use of any ordinary sewing mechanism. The present invention, however, is specially adapted to sewing-machines having an arm extending over the bed and with a front plate that retains the vertically-reciprocating needle-bar and the bar of the presser-foot in position. I combine with the sewing-machine a vertically-moving gage-bar supported by a bearing-frame attached to the head of the machine, and this gage-bar carries at its lower ends a gage which is usually in the form of a horizontal bar, with a right-angled end that is parallel with the line of stitching. When this gage-bar is used in hemming it becomes a hem-spreader, the bar being within the wide fold of the hem and the edge of the fabric being turned by an ordinary edge-turner, and the gage and gage-bar can be so adjusted in its bearing-frame that it does not bear upon the fabric passing beneath it, but allows such fabric to be moved along with little or no friction or resistance. Hence it is easy to perform the hemming operation without the body of the fabric being moved along by the feed to a greater extent than the edge of the fabric pass through the edge-turner of the hemmer.

By this improvement the hem-spreader can be swung out from the hem when approaching the end of the hem upon a circular article—such as a skirt or pillow-case—so as to allow the sewing to be continued until it reaches the point of beginning, and when the gage-bar is used in connection with either tucking, quilting, or ordinary stitching the gage-bar can be adjusted to the desired position for indicating the position of the edge, a line of sewing, or a mark from the line of sewing that is being performed by the machine, thus giving great facility in running the sewing-machine, and the gage, being above the fabric, can be held at any desired proximity thereto without producing friction or detention to such fabric, and seams that may have been sewed can pass beneath said gage-bar without being held thereby.

In the drawings, Figure 1 is an elevation showing a portion of the head or plate of the sewing-machine with my improved gage applied thereto. Fig. 2 is an elevation at right angles to Fig. 1; and Fig. 3 is a sectional plan view illustrative of the respective positions of the gage, the hemmer, the needle, and the presser-foot.

The head or front plate A of the sewing-machine is of any desired character, and the presser-foot B is held by a bar, as usual, and the needle C is supported and reciprocated in any usual manner.

In some sewing it is usual to remove the presser-foot B and introduce a hem-turner D in its place. This hem-turner D performs the twofold duty of a presser-foot and a hem-turner, and either the presser-foot or the hem-turner may be of any desired character and do not form a necessary part of the present invention. In the hem-turner I have represented the tongue 2, around which the edge of fabric is wrapped by the edge-turner 3, which is in the form of a volute or inclined finger that acts upon the edge of fabric to pass said edge in below the end of the tongue, and thereby turn the edge of fabric under to receive through it the line of sewing.

The bearing-frame E is preferably angular and connected by the screws 4 to the head or front plate of the sewing-machine, so as to be removed therefrom, and I remark that the shape of this bearing-frame will necessarily vary in different sewing-machines in order that such bearing-frame may be easily applied to the head or front plate of the sewing-machine, and it is usually advantageous to

construct this bearing-frame in such a manner that the guide-bar F may be at the left of the line of sewing, so as not to interfere with the operator's view of the sewing operation, and upon the bearing-frame E there are the bearings 5, through which the gage-bar F can slide freely, and there is a spring G around the gage-bar, acting upon the collar H, that is provided with a clamping-screw 6, by which the collar can be connected to the gage-bar, so as to move with it or be disconnected therefrom to allow the gage-bar to be moved through the collar, and upon the collar there is a guide 7, sliding in a groove in one of the bearings 5, so as to prevent the collar and gage-bar from turning in the bearings, but to allow the parts to move vertically and freely.

The lower end of the gage-bar is advantageously slotted, so that the gage I can be connected therewith or removed therefrom; but any other suitable mode of connection may be made use of. Where the gage I is permanent and does not require to be adjusted, as is frequently the case in sewing-machines adapted to one particular duty, such gage I may be made of a plate or bar of metal, with one end turned up into the slot in the gage-bar F, so as to be secured by the screw 8 to such gage-bar, and the right-angled end 9 of the gage is parallel with the line of sewing and at the desired distance from such line of sewing, so as to be used for determining the width of a hem or the width between one line of sewing and another or the width between a mark on the fabric and a line of sewing. I, however, usually prefer to make the gage adjustable, with the one part sliding through the socket which is at the lower end of the gage-bar, which socket has through it a hole or mortise corresponding to the part of the gage which slides through it and screws or other devices for clamping the gage in the socket, so that it may be adjusted for the right-angled end 9 to be at any desired distance from the line of sewing, and the gage may be marked to indicate inches or other measurements between the right-angled end of the gage and the line of sewing.

When this improvement is employed in hemming, the gage I is set at the proper distance from the line of sewing and is within the fold of the hem and becomes a hem-spreader to determine the width of the hem and thereby avoid the folding of the fabric heretofore usual in hemming wide hems upon a sewing-machine, and the gage-bar and gage can be raised or lowered to any desired extent and clamped by the screw 6, so that the gage does not press upon the fabric, and the spring G allows the gage to rise as any thicker portion of the fabric may pass under said gage, and, in addition to this, I provide a cam K, pivoted upon the lower bearing 5 and acting against the collar H or screw 6 to raise the collar, the gage-bar, and the gage to any desired extent previous to or during the sewing operation, and when hemming a skirt or pillow-case or other cylindrical article the sewing-machine can be stopped with the needle in the fabric when near the end of the hemming operation, so as to slip the fabric away from the gage and then turn it back to its position with the hem below the gage for finishing the hemming operation to the point of beginning.

When this device is used in quilting or in tucking, the right-angled end 9 of the gage can be used as a guide at the edge of the fabric at a hem at a previous line of stitching or at a mark upon the fabric to determine the distance therefrom to the line of sewing as said sewing progresses.

I claim as my invention—

1. The combination in a sewing machine with the presser foot and a turner for the edge of the fabric, of a hem spreader, a vertical gage bar for carrying such hem spreader, a frame connected with the head of the sewing machine and having bearings through which the gage bar can slide vertically, and means for sustaining the gage bar and the hem spreader above and not pressing upon the fabric that rests on the sewing machine bed, substantially as specified.

2. The combination in a sewing machine with the presser foot and a turner for the edge of the fabric, of a hem spreader, a vertical gage bar for carrying such hem spreader, a frame connected with the head of the sewing machine and having bearings through which the gage bar can slide vertically, and an adjustable collar upon the gage bar for sustaining the same and the hem spreader above and not pressing upon the fabric that rests upon the sewing machine, and a spring to hold the parts down in position but to allow unusual thicknesses to pass beneath the gage bar, substantially as set forth.

3. The combination with a sewing machine of a vertical frame removably connected to the head of the sewing machine, a gage bar sliding through bearings upon the frame, and a hem spreader or gage carried at the lower end of such bar, a collar surrounding the gage bar and having a guide in a slot upon one of the bearings, and a clamping screw whereby the collar is made to suspend the gage bar and gage above and not pressing upon the fabric that rests upon the sewing machine bed, substantially as set forth.

Signed by me this 14th day of August, 1894.

ALFRED S. SIMONS.

Witnesses:

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