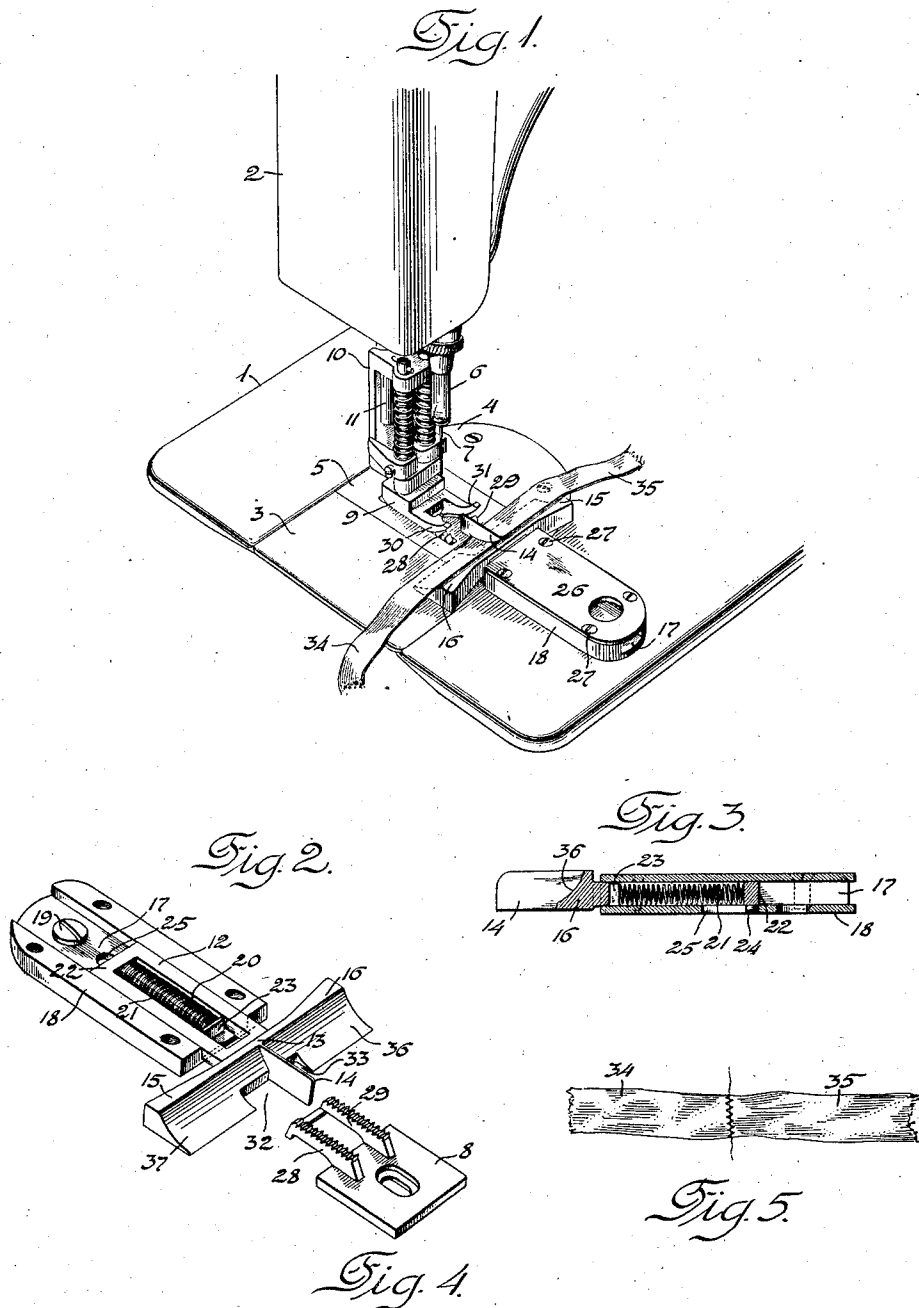


C. F. GRAY.
STAY GUIDE FOR SEWING MACHINES.
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Patented May 7, 1912.



WITNESSES:

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CHARLES FREDERICK GRAY, OF SIERRA MADRE, CALIFORNIA, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

STAY-GUIDE FOR SEWING-MACHINES.

1,025,463.

Specification of Letters Patent.

Patented May 7, 1912.

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To all whom it may concern:

Be it known that I, CHARLES FREDERICK GRAY, a citizen of the United States, residing at Sierra Madre, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Stay-Guides for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in sewing machine stay-guides and has a general application to such productions as employ a zigzag or cross stitch for uniting, in predetermined relationship, the abutting edges of comparatively narrow strips of material, and while herein shown and described as used for seaming together shoe eyelet stays, it will be readily understood that the invention is not limited in this respect.

Referring to the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view of the improved guide, together with so much of the bed-plate, overhanging arm and cloth-presser mechanism of a well understood form of commercial zigzag sewing machine as is deemed necessary for a proper understanding of the invention. Fig. 2 is a perspective view of the guide, the cover plate being removed to better illustrate the spring control of the stay-guide bar. Fig. 3 is a longitudinal vertical section of the guide taken on a line at one side of the stay-guide bar spring. Fig. 4 is a detail perspective view of the feed-dog. Fig. 5 is a view of a shoe eyelet stay having its abutting edges secured together by suitable zigzag or cross stitches.

1 illustrates the bed-plate of the sewing machine, 2 the overhanging arm, 3 the front and 4 the back cloth-plate, 5 the throat-plate, 6 the needle-bar carrying the eye-pointed needle 7, 8 the feed-dog, 9 the cloth-presser and 10 the frame connecting said cloth-presser with the presser-bar 11, all of which parts are of common construction and may be as herein pointed out or of any approved form.

The stay-guide bar comprises a main member 12 provided with a cross-bar 13 upon which the material rests as it is advanced to the action of the feeding mechanism, said bar being provided with a pro-

jecting blade or separator 14 which is located centrally between the free ends of the arms 15 and 16 comprising the cross-bar 13. The member 12 is mounted to slide in a suitable guide-way 17 formed in the frame-plate 18 which is secured by screw 19 to the bed-plate 1. Formed in the member 12 is an opening 20 in which is located a spring 21. One end of said spring rests against the inner wall of the end portion 22 of the member 12 and the opposite end abut against a lug 23 carried by the frame-plate 18, thus resiliently holding the stay-guide bar in its retracted position or its position farthest from the needle.

24 represents a pin secured to the underside of the end portion 22 of the member 12 and projecting into a slot 25 formed in the frame-plate 18, said slot being of the required length to properly limit the movements of the stay-guide bar in opposite directions.

26 is a cover plate secured by screw 27 to the frame-plate 18. While the employment of the spring 21 is desirable it is not essential to the practical working of the stay-guides, it being evident that the operator could return the member 12 without materially interfering with the next subsequent operation.

The feed-dog 8 is provided with the usual serrated feed-points 28 and 29, and the cloth-presser 9 with the commonly employed toe portions 30 and 31, and to better accommodate the relative action of the stay-guide bar and feed-dog, the arms 15 and 16 are cut away on opposite sides of the blade or separator 14 as shown at 32 and 33.

In the operation of the device, the stay pieces 34 and 35 are positioned by the operator, as shown in Fig. 1, with their lower longitudinal edges in contact with the throat-plate and their abutting edges on opposite sides of and resting against the separator 14, the operator at the same time holding the respective stay pieces pressed into the surfaces 36 and 37 which are preferably, but not essentially, concave in form. After having adjusted the stay pieces as pointed out, the operator advances the stay-guide bar, in opposition to the resiliency of the spring 21, a distance sufficient to cause the stay pieces to be placed in operative relationship with their respective feed-points and by the latter advanced to the needle

actuation, or until the pin 24 reaches its limit of movement in the slot 25, following which the spring 21 is permitted to return the stay-guide bar to its retracted or normal position for effecting the succeeding operation.

As the improved guide is applicable to many well known forms of machines which effect a zigzag or cross stitch, it has not been deemed necessary to illustrate or describe the mechanism employed for giving to the needle its lateral or zigzag movements or that for giving to the feed-dog its feeding movements.

What I claim is:—

1. In a stay guide for sewing machines, a guide-way secured on the bed-plate of the sewing machine, a main member mounted in said guide way and provided with material engaging surfaces and a separator, said material engaging surfaces and separator acting to register the abutting edges of said material in the same plane as they are advanced to the action of the stitch forming mechanism, said main member being free to be moved, at the will of the operator and during the stitching operation, into and out of effective relationship with said stitch forming mechanism.

2. In a stay-guide for sewing machines, an adjustable main member having movements in directions corresponding substantially with the line of seam formation, a feed-dog, a material-carrying bar carried by said member and provided with an inclined concaved surface, and a separator against which the abutting edges of the materials rest as they are being advanced to the action of the feed-dog.

3. In a stay guide for sewing machines, a feed-dog, a main member mounted on the bed plate of the sewing machine and provided with a separator and material engaging surfaces, the latter cut away on opposite sides of said separator to accommodate the movements of said feed-dog, said main member being free to be moved, at the will of the operator and during the stitching operation, into and out of effective relationship with the stitch forming mechanism of the sewing machine.

4. In a stay guide for sewing machines, a feed dog, a main member mounted on the bed plate of the sewing machine and provided with a separator and material engaging surfaces, the latter cut away on opposite sides of said separator to accommodate the movements of said feed-dog, said main member being free to be moved, at the will of the operator and during the stitching operation, into and out of effective relationship with the stitch forming mechanism of the sewing

machine, and means for limiting the oppositely arranged movements of said main member.

5. In a stay-guide for sewing machines, an adjustable main member having oppositely directed movements in a line corresponding substantially with the line of seam formation, resilient means for holding said member in its retracted position, a feed-dog, and a material-carrying bar carried by said member and provided with a separator against which the abutting edges of the materials rest as they are being advanced to the action of said feed-dog.

6. In a stay-guide for sewing machines, a guideway mounted on the bed-plate of the sewing machine, a main member mounted in said guide-way free to be moved by the operator in a direction corresponding substantially with the line of seam formation and resiliently held in its retracted position, a feed-dog, and a material-carrying bar carried by said member and provided with a separator against which the abutting edges of the materials rest as they are being advanced to the action of said feed-dog.

7. In a stay-guide for sewing machines, a frame mounted on the bed-plate of the sewing machine, a main member mounted in said frame and having oppositely directed movements in a line corresponding substantially with the line of seam formation, a spring for holding said member in its retracted position, a feed-dog, and a material-carrying bar carried by said member and provided with a separator against which the abutting edges of the materials rest as they are being advanced to the action of said feed-dog.

8. In a stay-guide for sewing machines, a frame mounted on the bed-plate of the sewing machine, an adjustable main member mounted in said frame and resiliently held in its retracted position, means for limiting the movements of said member, a feed-dog, a material-carrying bar carried by said member and provided with an inclined concaved surface, and a separator carried by said bar against which the abutting edges of the materials rest as they are being advanced to the action of said feed-dog, said main member, material-carrying bar and separator having movements in directions substantially in line with the seam formation.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES FREDERICK GRAY.

Witnesses:

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ABBIE M. DONIHU.