(No Model.)

C. E. WEYAND.

GLOVE EMBROIDERING ATTACHMENT FOR SEWING MACHINES.

No. 402,213. Patented Apr. 30, 1889.

Fig. 1.

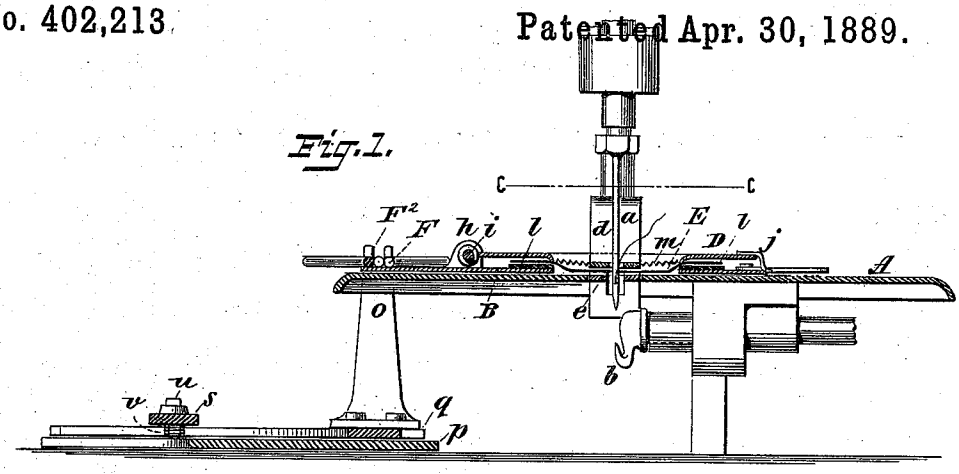


Fig. 2.

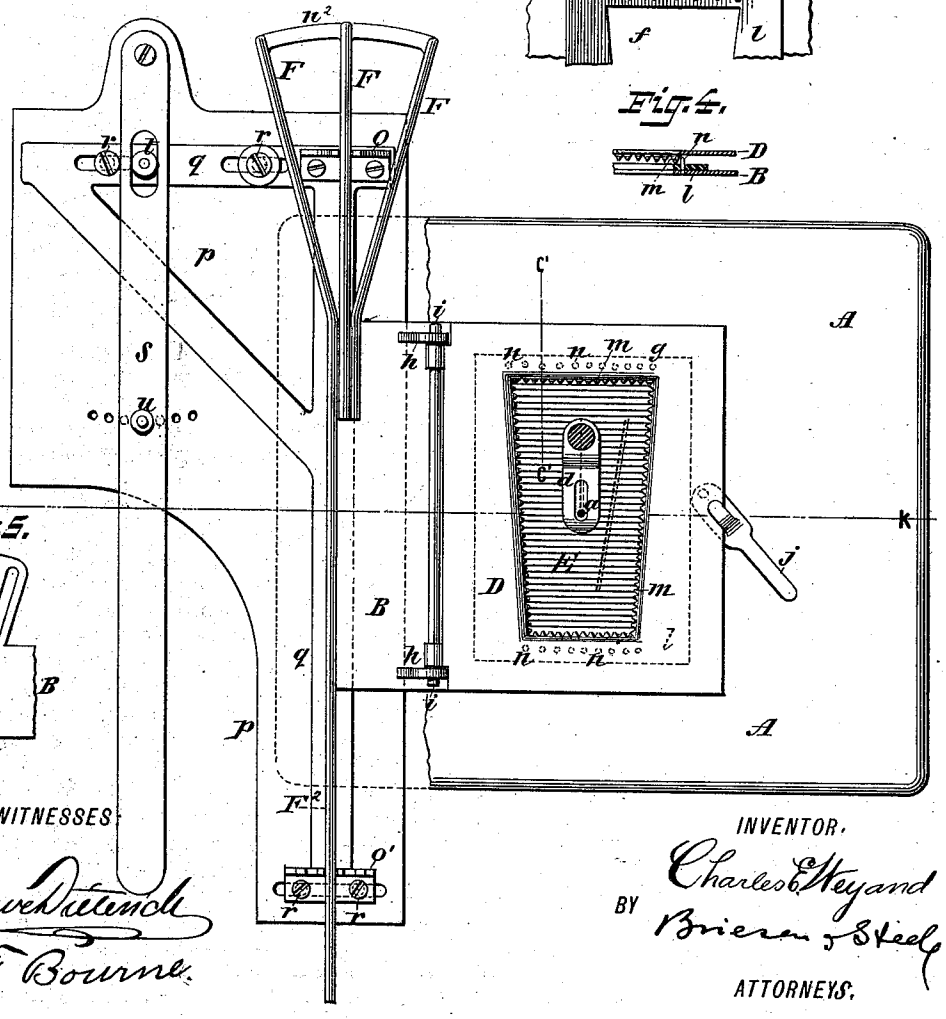
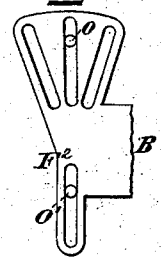


Fig. 3.

Fig. 4.

Fig. 5.



WITNESSES:

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GLOVE-EMBROIDERING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 402,213, dated April 30, 1889.

Application filed April 30, 1888. Serial No. 272,508. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. WEYAND, a resident of the city of Brooklyn, Kings county, New York, have invented an Improved Attachment to Sewing-Machines, of which the following is a specification.

The object of my invention is to provide an improved device for guiding fabric for gloves, mitts, &c., in a sewing-machine while embroidering or stitching the same.

The invention consists in a fabric holder or clamp that is adapted to pass over the bed-plate of a sewing-machine, said clamp carrying series of guides combined with bearings in which said guides rest and wherein they may be adjusted to move the fabric-clamp in varying directions to produce varying rows of stitches.

The invention also consists in the details of improvement and the combinations of parts, that will be more fully hereinafter set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical cross-section on the line *k k*, Fig. 2, through my improved attachment for guiding fabric and a portion of a sewing-machine. Fig. 2 is a plan view of the same, part of the bed-plate of the sewing-machine being broken away. Fig. 3 is a detail top view of a portion of the lower part of the fabric holder or clamp. Fig. 4 is a detail sectional view on the line *c' c'*, Fig. 2; and Fig. 5 is a detail view of a modification.

In the accompanying drawings, the letter A represents the bed-plate, *a* the needle, *b* the looper, *d* the presser-foot, and *e* the feed-rack, of a sewing-machine of suitable construction. This is as much of a sewing-machine as it is necessary for me to show to illustrate the application of my invention thereto.

My invention is applicable to every kind of sewing-machine.

B is the lower plate of my fabric holder or clamp, which is provided with a suitable opening, *f*, through which the needle *a* is adapted to pass.

D is the upper plate of the clamp, which is hinged, as at *h*, to the plate B, and is provided with an opening, *g*, that corresponds with the opening *f* in the plate B, when the clamp is closed.

The fabric E to be embroidered is placed between the plates B and D, so that the part of the fabric to be embroidered or stitched shall be between the openings *f g* in the plates B and D. The plates B and D are held closed or one upon the other to secure the fabric by a clasp or clasps, *j*, carried by one of the plates and engaging the other, or by other suitable means. In order to keep the fabric E from slipping when between the plates B D, I provide around the needle-opening in one of said plates—say the one B—a band or covering, *l*, of rubber or analogous substance, upon which the fabric E may rest. The edges of the plate D around the opening *g* are turned in and toothed, as at *m*, and when brought down upon the fabric hold it firmly against the rubber band *l*.

n are pins that project from the plate B and are arranged at the opposite ends or sides of the opening *f* therein. These pins are adapted to pierce and hold the ends of narrow pieces of tape or other strips in position to be attached to the fabric by the embroidery-stitches.

F are guide-rods that are secured to the clamp, preferably the plate B thereof. There may be two or more of said guide-rods F, three being shown in the drawings, said rods projecting outward from near one corner of the plate B. One of these guide-rods F—say the center one—is or may be straight and parallel with the clamp, while the two outer rods, F, project at an acute angle to said straight one. These guide-rods F are preferably braced near their free ends by a cross-bar, n^2; but instead of making the guide-rods F in separate pieces, as shown, they may be made of one piece of metal or in any other suitable manner. A guide-shank, F^2, or rod extends in a straight line from that corner of the plate B that is opposite the three rods F, as shown in Fig. 2.

The fabric-clamp B D is adapted to rest upon the bed-plate A of a sewing-machine to pass under the presser-foot *d* thereof and to move over said bed-plate. The guide-shank F^2 and one of the rods F are placed in bear-

ings o' and o, respectively, that are carried on a suitable base, p, that is adapted to be secured to the sewing-machine table or elsewhere in proximity to the sewing-machine. The bearing o is or may be provided with a single notch to receive one of the rods F, but the bearing o' is or may be provided with a number of notches to receive the single straight shank F^2. The bearings o o' are secured to a movable frame, q, that is guided in the base p. This frame q is provided at one end with one or more slots that receive pins or screws r, that project from the base p, or said screws may be carried by the frame q and project into slots in the base, as in the lower part of Fig. 2. By this means the frame q can be adjusted on said base; but said frame may be adjusted in any other suitable manner. In order to move said frame q a proper distance and with certainty, I pivot to the base p a lever, s, that is provided with a suitable slot, through which passes a pin, t, from the frame q. As said lever s is oscillated, the frame q will be moved, thereby moving the fabric-clamp when in position on the bearings o o' over the bed-plate A, so that the needle may lay a row of stitches in different positions. In order to hold the frame q in a proper position after having been moved, I provide a pin, u, that passes freely through the lever s and rests at one end upon the base p. A spiral spring, v, surrounds the pin u and presses against the lever s, thereby acting to hold said lever and with it the frame q in proper position; but said lever may be held by a spring otherwise arranged or by any other suitable means.

My improved guiding device is operated as follows: The fabric E to be stitched or embroidered is first placed between the plates B D and said plates closed upon the fabric and locked by the clasp j. This fabric-clamp is then laid upon the bed-plate A of the sewing-machine and passed under the presser-foot d, one of the guide-rods F being then laid in the bearing o, and the shank F^2 in the bearing o'. If a straight center row of stitches on the back of a glove is desired to be embroidered, the straight or center guide-rod, F, will be placed in the bearing o and the shank F^2 in the bearing o', as shown in Fig. 2. The frame q may now be moved, thereby moving the fabric-clamp B D until the desired part of the fabric is brought in position under the needle. The machine is now started to lay the embroidering or other stitches in the fabric, the fabric and its attached clamp B D being moved by the feed-rack e, as in ordinary sewing. The fabric being moved by said rack e carries the clamp with it. As said clamp is moved, the guide-rod F, passing through the bearing o, will guide the said clamp, and thereby the fabric, in a straight line. When this row of stitching has been completed and it is desired to stitch another row parallel thereto, it is only necessary, after raising the needle from the fabric, to move the frame q by the lever s in the desired direction the required distance to change the position of the clamp B D, when the clamp and fabric will be guided, as above stated. To lay a row of stitches at an angle to the first row, one of the outer rods, F—say that on the right-hand side—will be placed in its bearing o, leaving the guide-shank F^2 in the bearing o'. When the clamp and its guide-rods have been adjusted as above and the stitching is being done, said clamp will be guided by said guide-rods in a direction diverging from that guided by the straight central rod, F. The row of stitching shown in dotted lines at the right-hand side of the needle a in Fig. 2 shows a row of stitches made while the fabric-clamp was guided as last stated. If it is desired to place a row of stitches on the opposite side of the central straight row and at an angle thereto, the guide-rod F on the left-hand side will be placed in the bearing o, when the fabric will be guided so as to lay such a row of stitches. The single shank F^2 on the opposite end of the plate B may be placed in any of the notches on the bearing o' to assist in varying the angle of the row of stitches. Thus it is seen that the fabric is guided to make a row of stitches in one line and also guided to make one or more rows of stitches that are at varying angles to the first row. By the above construction I overcome the necessity of using strips of paper, &c., as has heretofore been done, to assist in guiding gloves, mitts, &c., in a sewing-machine to lay the embroidered stitching on the backs of such articles.

By my device each line of embroidery may be made perfectly parallel with its corresponding line, every row of stitching being of the uniform distance apart desired, thereby adding to the effect of the same. Then, again, a fabric that has been held in the clamp B D and stitched while in said clamp will not curl up when removed from the clamp, which is often the case with fabric that is embroidered in the ordinary manner.

Instead of rods F F^2, a plate with slots or grooves similar to said rods may be used, guided on pins or rib-like bearings. A plate thus slotted, as at F F^2 on pins o o', is shown in Fig. 5.

If in operating the machine a tape is stretched over the pins n n, across the opening f, and in contact with the back of the fabric, such tape will be secured to the fabric (as in Letters Patent No. 363,829, dated May 31, 1887) by the rows of stitches produced as described.

Having now described my invention, what I claim is—

1. In a device for guiding fabric in a sewing-machine, the combination of stitch forming and feeding mechanism with a fabric-clamp having diverging guides F, guide-shank F^2, and bearings for said guides and shank, substantially as described.

2. The fabric-clamp B D, having guide-rods

F and shank F^2, combined with the movable bearings *o o'*, whereby by moving said bearings the fabric-clamp will be moved laterally over the bed-plate of a sewing-machine, substantially as described.

3. The fabric-clamp B D, having an opening for the passage of a needle, and having the diverging guide-rods F and shank F^2, combined with the bearings *o o'*, and the frame *q*, carrying said bearings and guided in the base *p*, substantially as described.

4. The fabric-clamp B D, having the diverging guide-rods F and straight shank F^2, combined with the bearings *o o'* for said guide-rods, and shank-frame *q*, carrying said bearings and guided on the base *p*, and with the lever *s*, for moving said frame, substantially as herein shown and described.

5. The plate B, having an opening, *f*, and pins *n n*, at opposite edges of said opening, upon which pins a tape may be placed and stretched across said opening, combined with the plate D, having an opening that registers with the opening *f*, said plates B D being constructed to clamp a fabric between them, so that the tape that is held by the pins *n n* may be sewed to the fabric, and with the diverging guides F and straight shank F^2, and bearings for supporting said guides and shank, substantially as described.

The above specification signed by me this 16th day of March, 1888.

CHAS. E. WEYAND.

Witnesses:

A. v. BRIESEN,

HARRY M. TURK.