(No Model.) 2 Sheets—Sheet 1.

L. A. CASGRAIN.

QUILTING MACHINE.

No. 577,235. Patented Feb. 16, 1897.

Fig. 1

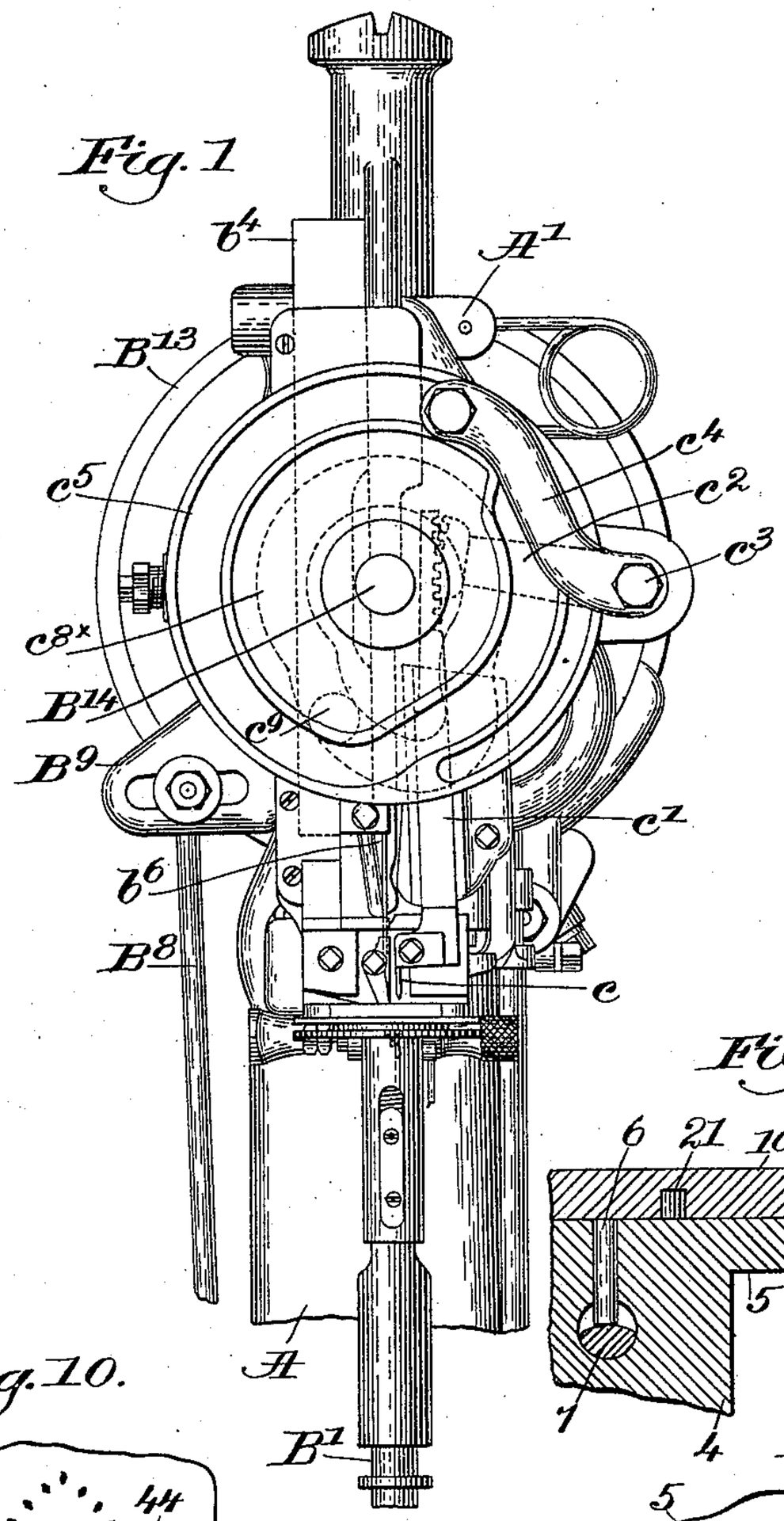


Fig. 8.

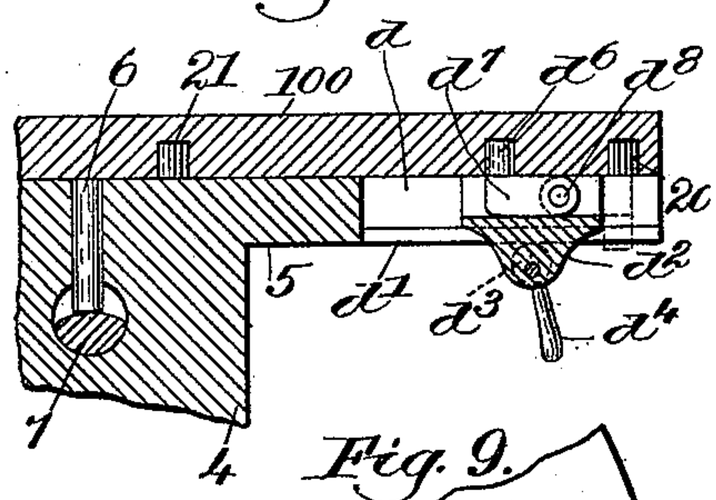


Fig. 10.

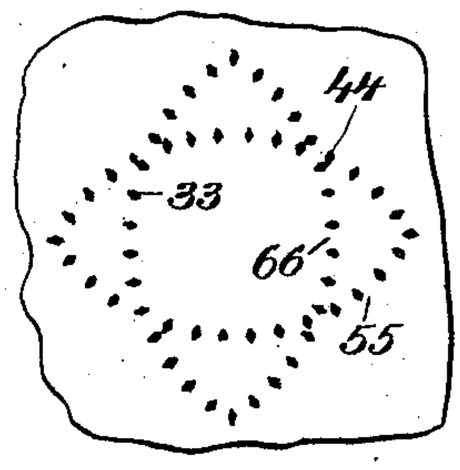
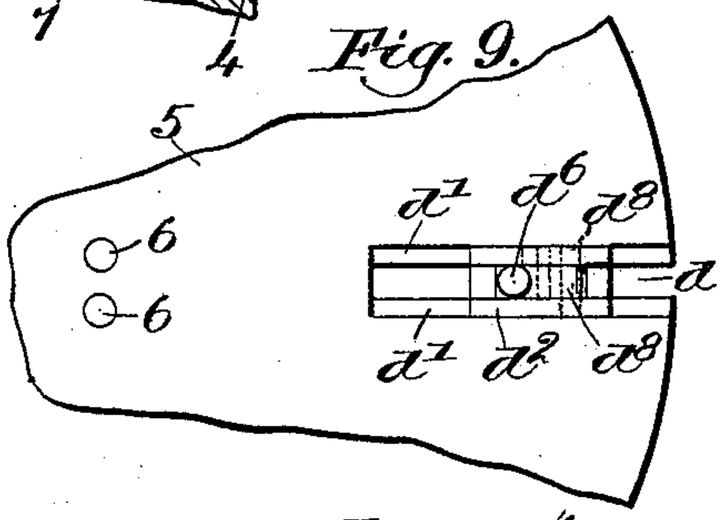


Fig. 9.



Witnesses.
Fred S. Grunlaf.
A. C. Harwood

Inventor:
Louis A. Casgrain.
By Crosby & Gregory, Attys.

(No Model.) 2 Sheets—Sheet 2.

L. A. CASGRAIN.

QUILTING MACHINE.

No. 577,235. Patented Feb. 16, 1897.

Fig. 3.

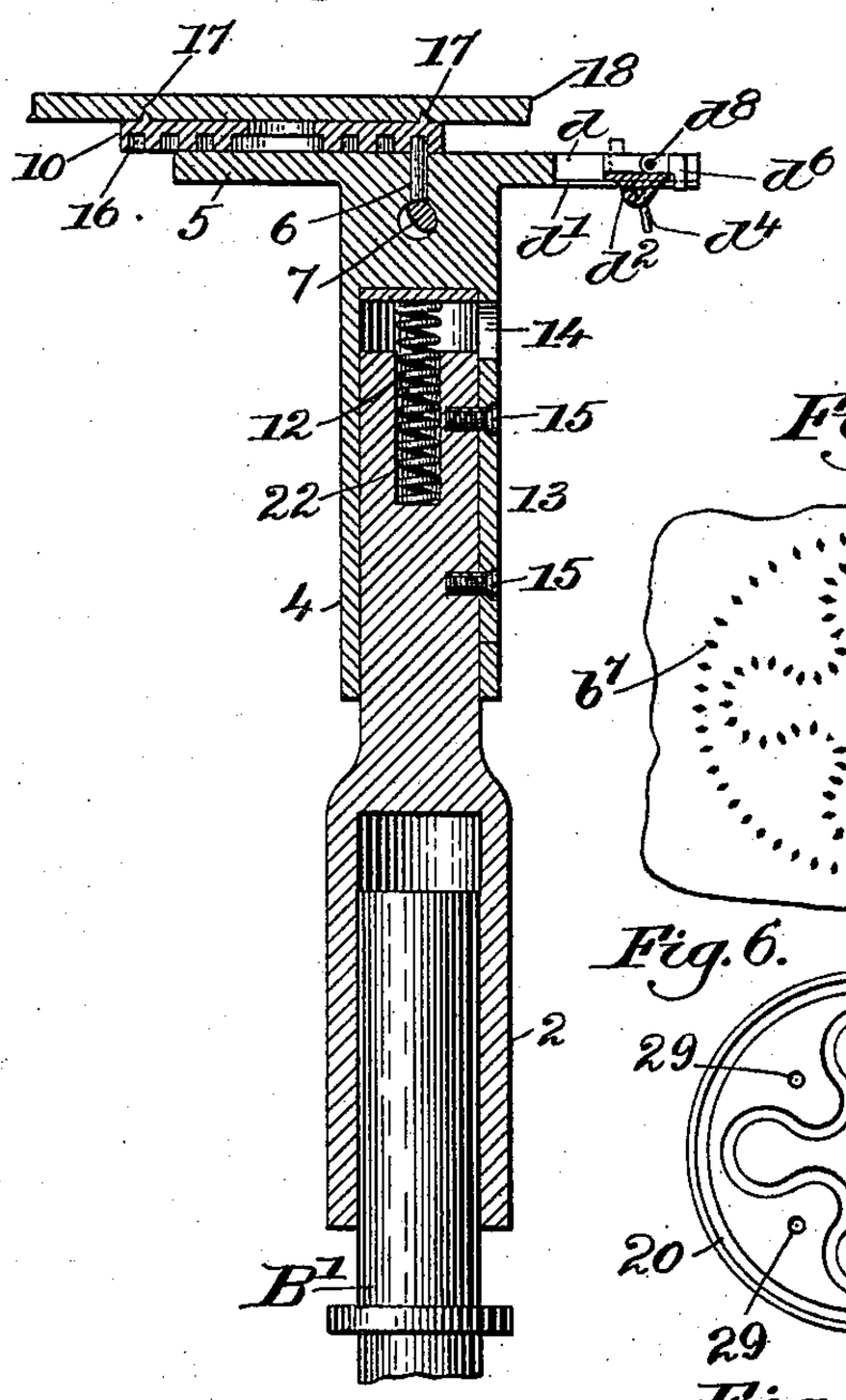


Fig. 2.

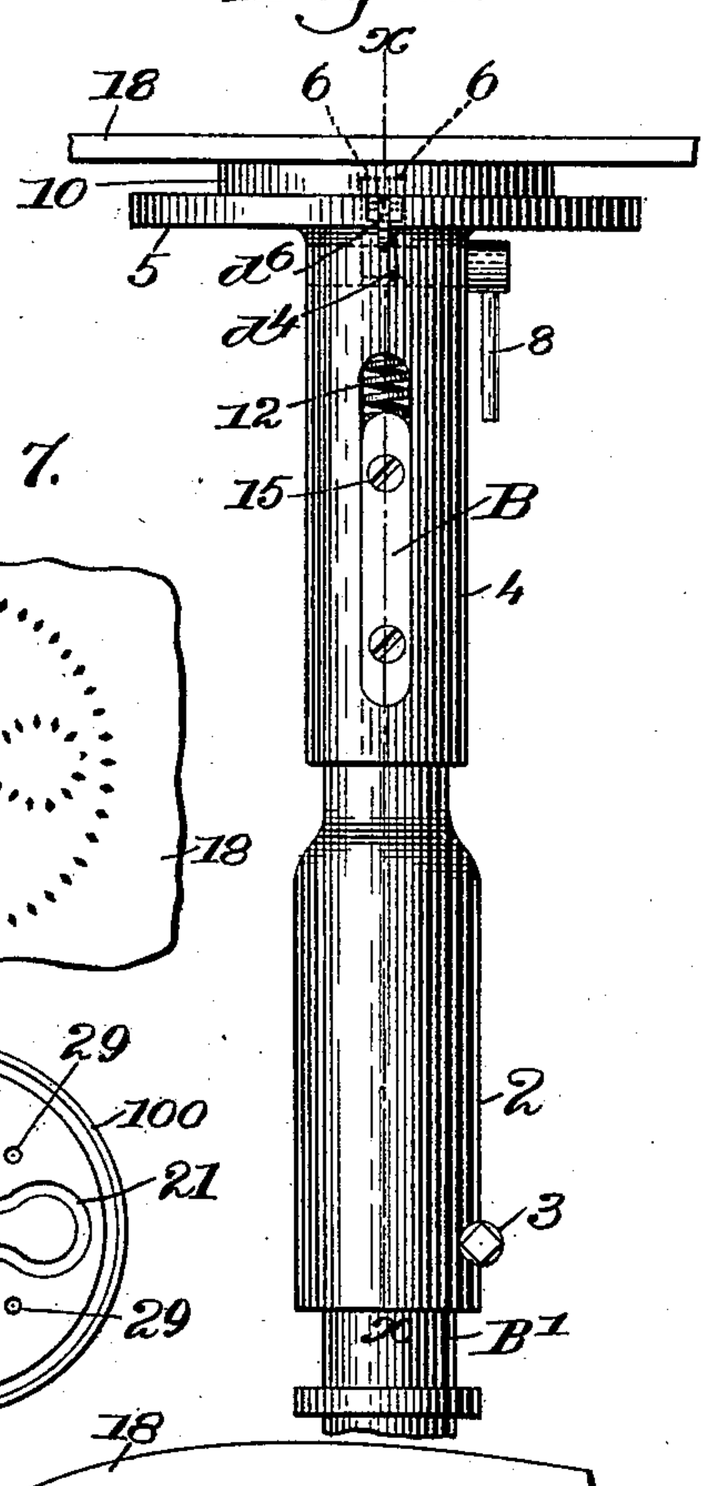


Fig. 7.

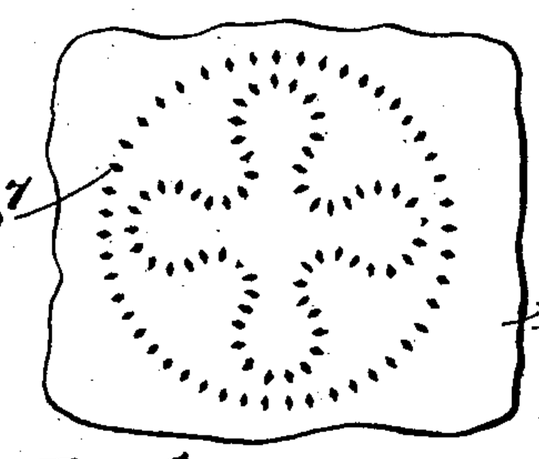


Fig. 6.

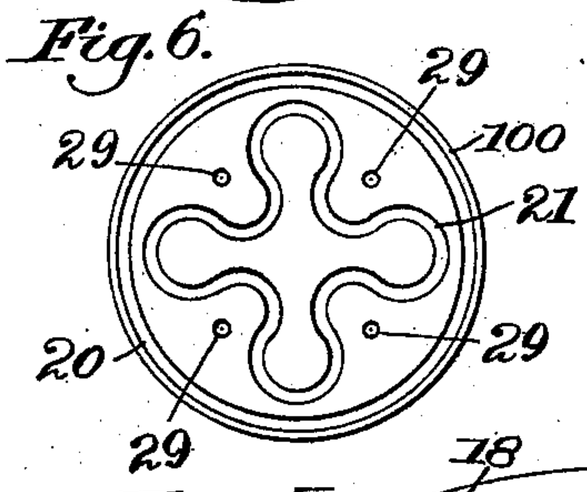


Fig. 5.

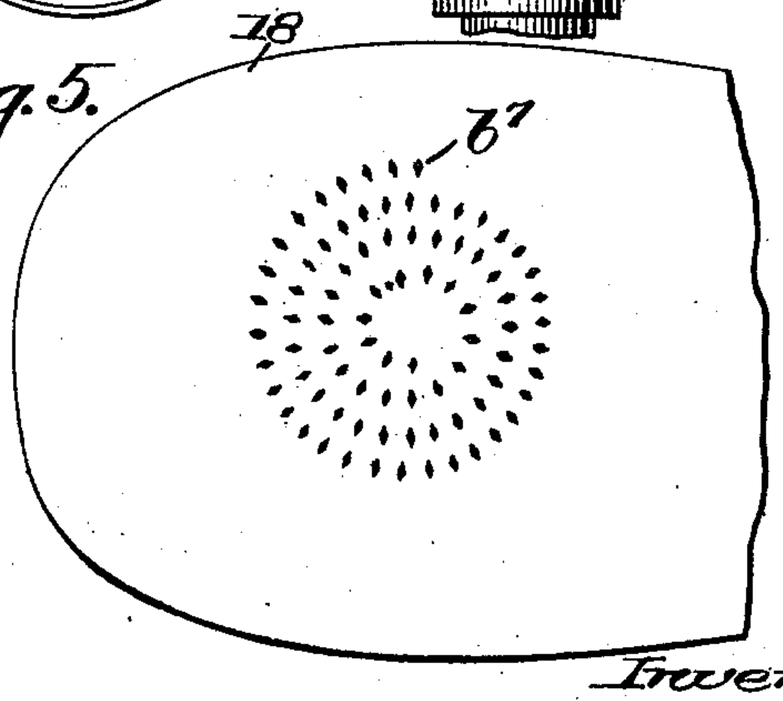
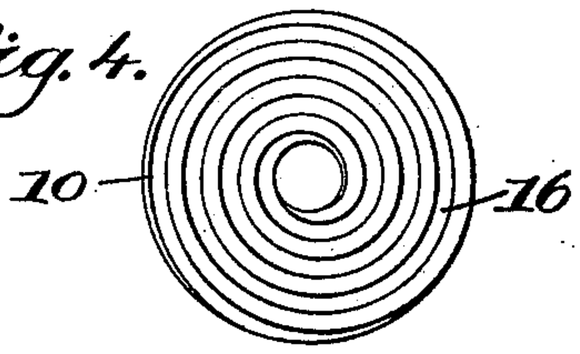


Fig. 4.



Witnesses.
Fred L. Gunderf.
Thomas J. Drummond.

Inventor.
Louis A. Casgrain
by Brady Peyton & Attys.

UNITED STATES PATENT OFFICE.

LOUIS A. CASGRAIN, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO JAMES W. BROOKS, PRINCIPAL TRUSTEE, OF PETERSHAM, AND FRANK F. STANLEY, ASSOCIATE TRUSTEE, OF SWAMPSCOTT, MASSACHUSETTS.

QUILTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 577,235, dated February 16, 1897.

Application filed October 19, 1896. Serial No. 609,297. (No model.)

To all whom it may concern:

Be it known that I, LOUIS A. CASGRAIN, of Winchester, county of Middlesex, State of Massachusetts, have invented an Improvement in Quilting-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of a novel quilting-machine adapted to drive metallic nails in fanciful figures or shapes in the top or outer or other sole or exposed part of boots and shoes.

In my invention I have combined with mechanism for driving fastenings, and a feeding mechanism, a spring-supported plate or rest and a pattern-plate, the latter being adapted to hold and carry positively the piece of leather to be quilted in pattern, the particular pattern being determined by grooves at the under side of the pattern-plate, which are entered by a suitable pin or projection carried by the rest, the pattern-plate deriving its step-by-step movement by the action of a feeding device on the leather to be quilted.

Figure 1 in front elevation represents a sufficient portion of a quilting-machine to enable my improvement to be understood. Fig. 2 is an enlarged detail showing part of the usual horn-shaft, the spring-supported rest, and pattern-plate with a piece of leather thereon. Fig. 3 is a partial section in the line *x x*, Fig. 2. Fig. 4 shows an under side view of the pattern-plate. Fig. 5 shows a piece of sole with fastenings or nails driven in accordance with said pattern; Fig. 6, a modified form of pattern; Fig. 7, a piece of sole showing quilting which may be made with the pattern-plate Fig. 6; Figs. 8 and 9, sectional and plan views, enlarged, of a device on the rest for quilting substantially star-shaped figures; and Fig. 10, a piece of sole showing quilting which may be made by a combined use of the pattern-plate Fig. 6 and the device shown in Figs. 8 and 9.

The column A, on which rests the head A′, supporting the main shaft B^{14}, having a suitable cam B^{13} to actuate a lever B^{9}, provided with a link B^{8}, and the horn-shaft B′ are substantially as in United States Patent No. 403,835, dated May 21, 1889, and in practice the machine herein to be described will be provided with connections between said link and horn-shaft to periodically depress when the feed of the material is taking place.

The main shaft has a hub provided with a groove c^{5}, which receives a roller or other stud of a lever c^{4}, fast on a rock-shaft c^{3}, provided with a toothed sector-lever which engages the toothed edge of an awl-bar c', provided with a feeding-awl c, and the said hub also has a cam-groove $c^{8\times}$, which receives a roller or other stud projected from the rear side of a driver-bar b^{4}, provided with a driver b^{6} to drive the fastenings b^{7}, all as shown and described in United States Patent No. 563,478, dated July 7, 1896, and in the present machine, as provided for in the latter patent, the fastenings will be cut from wire as they are to be used, the machine carrying a coil of wire and having suitable feeding mechanism to feed the wire for the length required for the fastening, which is then cut off and driven by the driver.

To the top of the horn-shaft B′, I clamp a split sleeve 2, using a clamp-screw 3, the upper end of the sleeve receiving over it the hollow shank 4 of a substantially circular plate 5, provided, as shown, with two vertically-movable pins or projections 6, controlled as to their position by a cam 7, operated by a handle 8, said pins or projections being made movable, as shown, so that they may be lowered below the plate 5 when the pattern-plate 10 is to be applied or removed.

Between the sleeve 2 and the shank 4 I have applied a spiral spring 12, it entering a recess 22 in the upper end of the sleeve and providing a yielding support for the shank 4 and the parts carried thereby, the spring normally tending to lift the work against the driving devices.

The sleeve and plate constitute a rest and also a guide for the pattern-plate.

The rotation of the plate 5 is prevented by the gib 13, held in the longer slot 14 of the shank by screws 15.

The pattern-plate 10 (shown in Figs. 1 to 3) has its under side provided with a spiral

groove 16, and at its upper side it has suitable points 17, on which is impaled the leather constituting the sole 18, and as the fastenings b^7 are driven in said sole the awl acting on the sole will feed it, and the pattern-plate by reason of the shape of the groove 16 will cause the said fastenings to be driven into the sole, producing the figure represented in Fig. 5.

The pattern may be varied by changing the shape of the groove in the under side of the pattern-plate, as, for instance, the pattern-plate 100 (see Fig. 6) may have an annular groove 20 and an irregular groove 21, and by its use a row of fastenings may be driven in a circle, as shown in Fig. 7, and inside the circle the nails will be driven to produce the central figure represented in said Fig. 7.

It is sometimes desired to make star-shaped figures having pointed arms with curved sides, and I have provided for the production of such figures in a simple manner.

As best shown in Figs. 8 and 9, the plate 5 is provided with a radial slot d, extended inwardly from its circumference, the sides of the slot having ribs d', on which is adapted to slide a block or carriage d^2, held in adjusted position by a locking-cam d^3, controlled by a handle d^4.

The carriage d^2 is grooved longitudinally at d^5 to receive a centering-pin d^6, having a laterally-extended foot d^7, pivoted to the carriage at d^8, so that when in full-line operative position, Fig. 8, the pin d^6 will project above the top of the plate 5.

When turned down into dotted-line position in said Fig. 8, the pin and its foot d^7 will be below or flush with the top of the plate, and in this position one of the pattern-plates described may be used.

If it is desired to quilt a figure such as shown in Fig. 10, for instance, the pins 6 are depressed and the centering-pin d^6 turned into operative position, the carriage d^2 being locked at a distance from the path of the driver equal to the desired radius of the curve 33, Fig. 10. The pattern-plate 100, Fig. 6, may be used, it being provided with a number of holes 29, four being shown, and the centering-pin d^6 is inserted in one of them. As the work is fed the pattern-plate 100 turns on the pin d^6 as a center and the curved line 33 of slugs, Fig. 10, will be driven, after which the pin is inserted in one after another of the holes 29, and the lines of slugs or fastenings will be driven in the curved lines 44, 55, and 66, making a star-shaped figure.

Obviously other figures may be formed by varying the position of the centering-pin and by varying the number and location of the holes in the pattern-plate into which said pin is to enter, and combinations of these figures with other figures may be made in great variety.

When using a pattern-plate with the curved grooves, I use two pins 6 in order to cause the plate to follow the pattern, for if only one pin were used the plate would swing irregularly about it as on a center and the pattern could not be reproduced in the fastenings.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a quilting-machine for driving fastenings in patterns, a fastening-driving mechanism, a feeding mechanism, and a spring-supported plate or rest, combined with a pattern-plate adapted to receive and carry positively the piece of leather to be quilted in pattern, the particular pattern being determined by a groove at the under side of said pattern-plate, and two relatively-fixed pins in said groove, substantially as described.

2. The spring-supported plate, two adjustable pins carried thereby, and a pattern-plate having a groove entered by said pins, combined with a feeding device to engage the material lying on said pattern-plate and move it and said plate, and with a fastening-driver and its actuating devices, substantially as described.

3. The horn-shaft B′, the sleeve clamped on it, a plate having a hollow shank to slide on said sleeve, a spring interposed between said hollow shank and the top of the said sleeve, and a pin or projection, combined with a pattern-plate having at its top pins to hold the material to be quilted, and at its under side a groove, to operate, substantially as described.

4. In a quilting-machine for driving fastenings to form a pattern, fastening-driving mechanism, feeding mechanism, a supporting plate or rest, and a radially-adjustable centering pin or projection thereon adapted to be moved into operative or inoperative position, combined with a pattern-plate to carry the work to be quilted in pattern, said plate having a plurality of holes in its under side to be entered one by one by said centering-pin, whereby the fastenings will be driven in the work in curved intersecting lines, substantially as described.

5. The spring-supported plate, two adjacent vertically-movable pins carried thereby side by side, means to elevate the pins, a carriage radially movable in the plate, and a centering-pin pivotally mounted on the carriage and adapted to be turned into inoperative position, combined with a pattern-plate having a pattern-groove to be entered by said adjacent pins, said plate having a plurality of holes to be entered one by one by the centering-pin when in use, a feed device to engage the work resting on the pattern-plate and to move both, and a fastening-driver and actuating devices therefor, substantially as described.

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

LOUIS A. CASGRAIN.

Witnesses:
JOHN C. EDWARDS,
A. E. DEAN.