

(No Model.)

2 Sheets—Sheet 1.

C. J. SHRINER & L. T. ADAMS,
SOLE SEWING MACHINE.

No. 582,510.

Patented May 11, 1897.

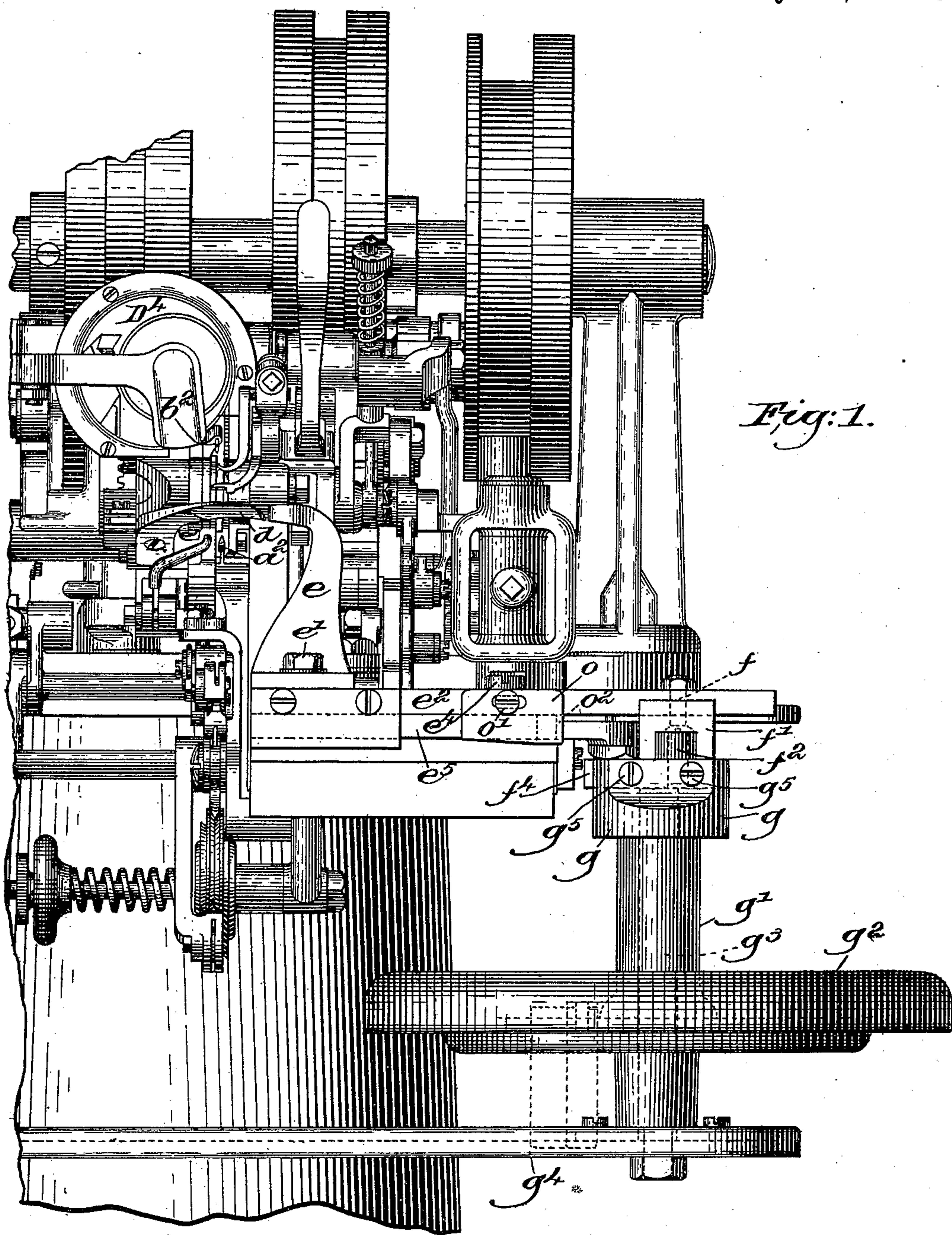


Fig. 1.

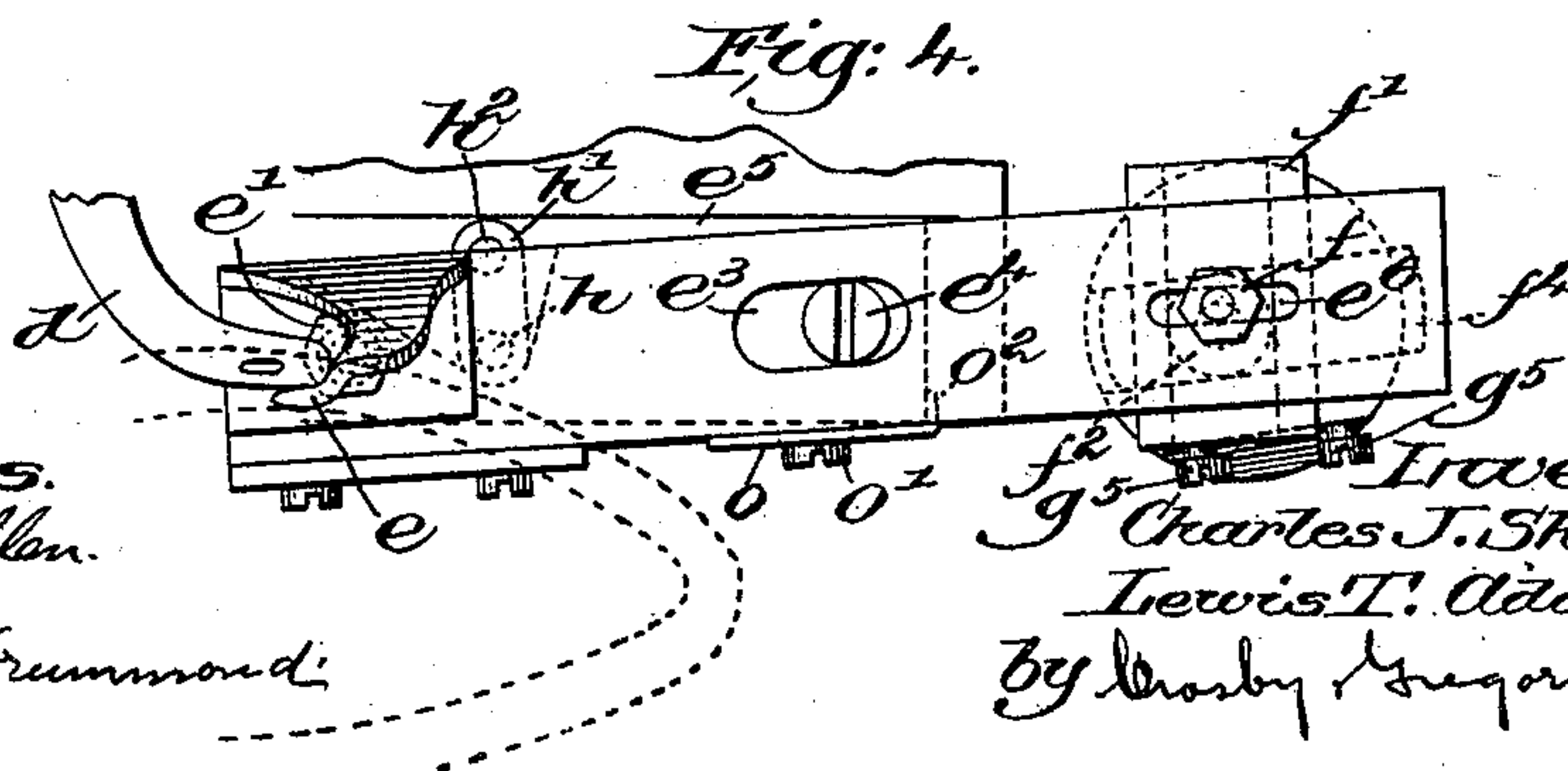
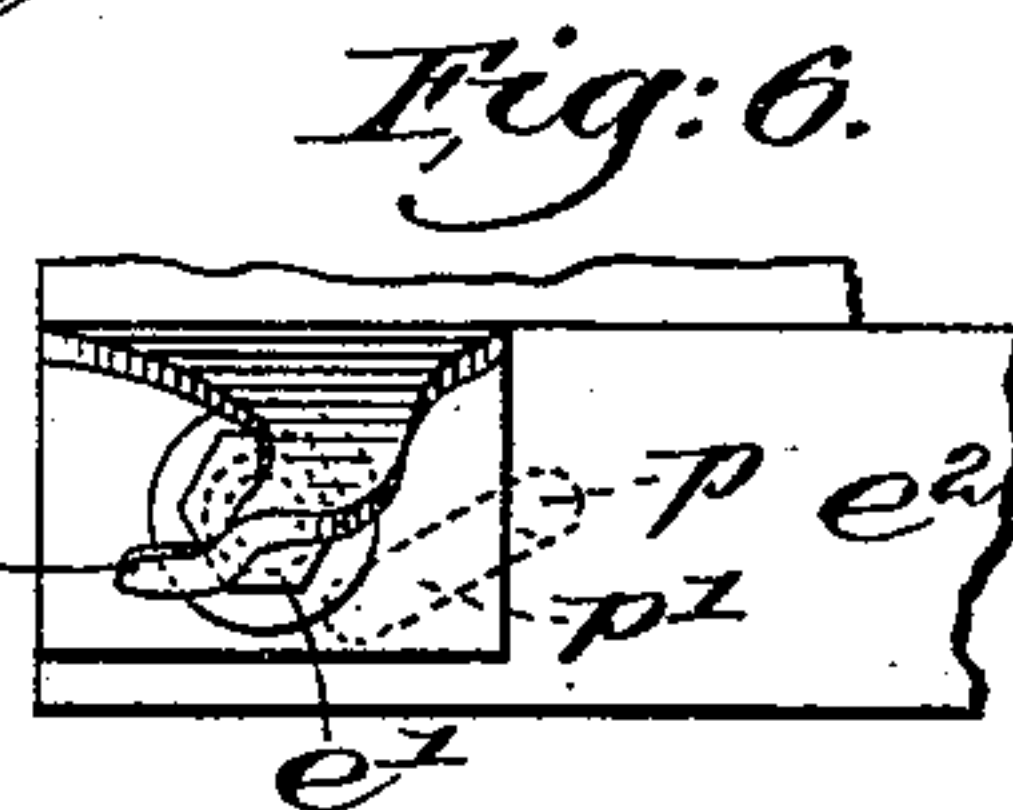
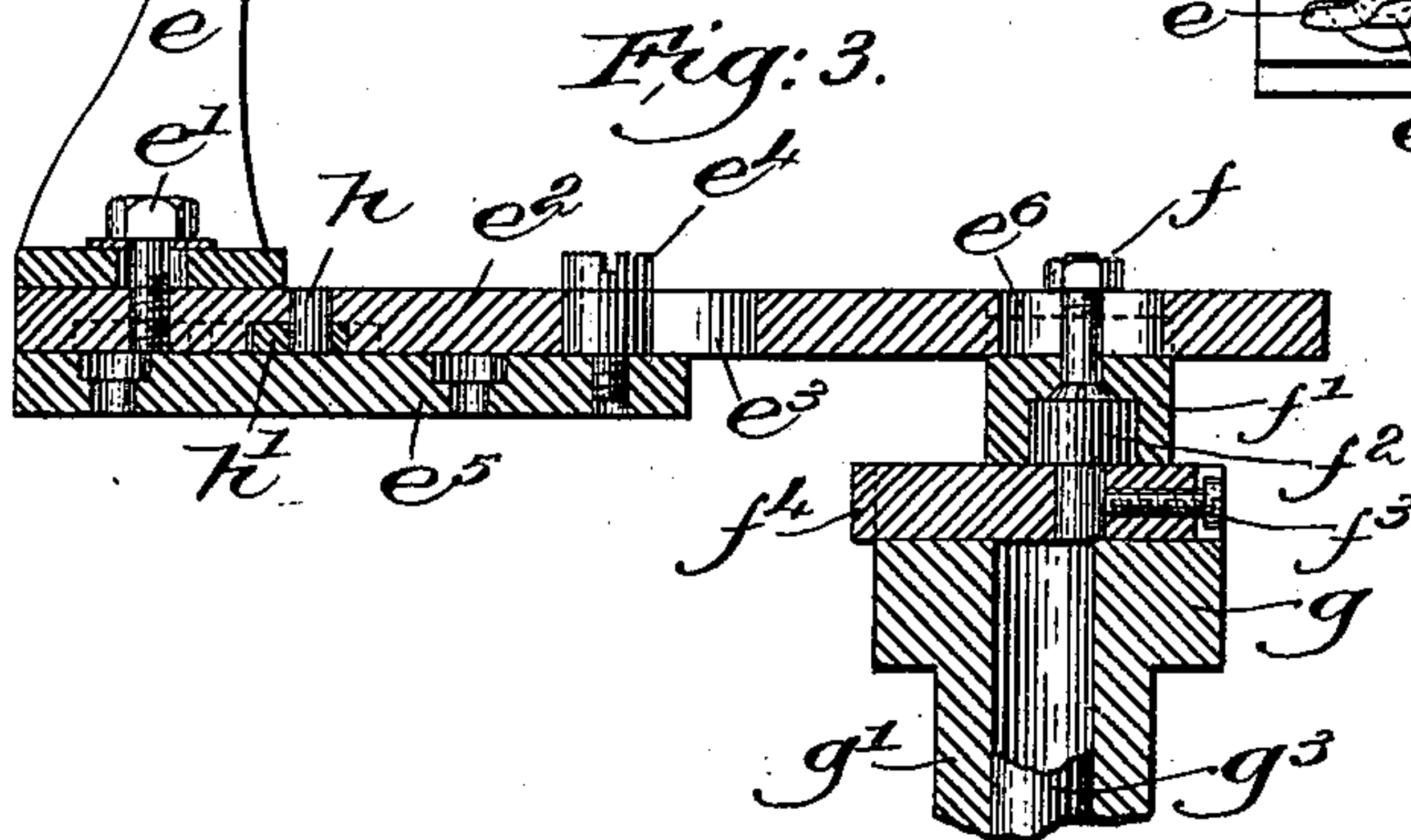
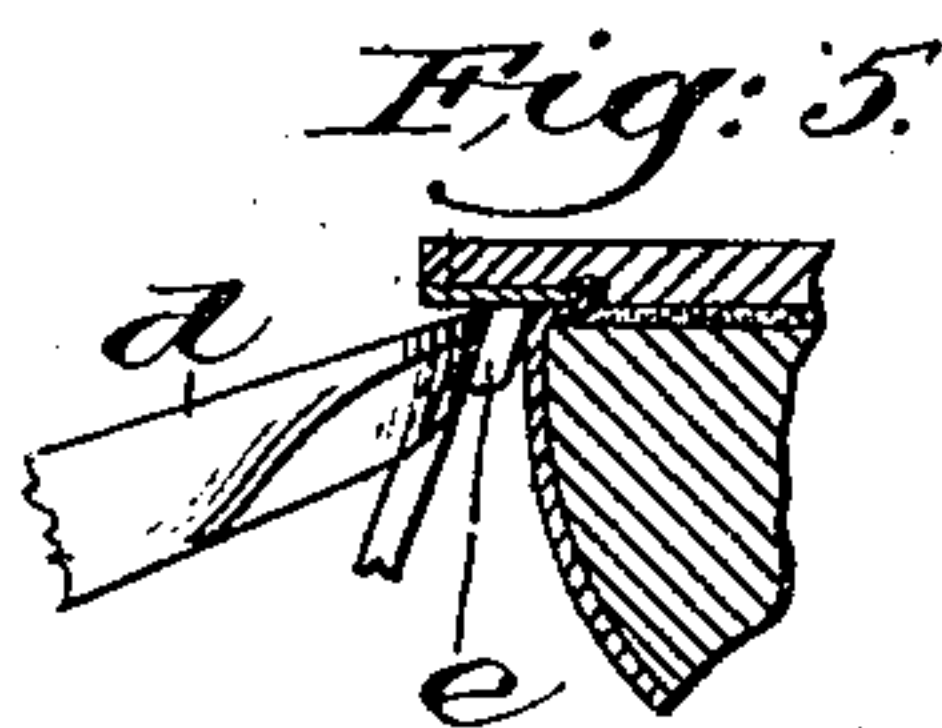
Witnesses.
Edward F. Allen.
Thomas J. Drummond.

Inventors.
Charles J. Shriner.
Lewis T. Adams.
by Crosby Gregory atty.

2 Sheets—Sheet 2.


No. 582,510.

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Witnesses.
Edward F. Allen.

Thomas J. Drummond

f²
g⁵  *Inventors.*
Charles J. Shriver.
Lewis T. Adams.
By Crosby Gregory attys.

UNITED STATES PATENT OFFICE.

CHARLES J. SHRINER, OF BOSTON, AND LEWIS T. ADAMS, OF WHITMAN,
MASSACHUSETTS; SAID ADAMS ASSIGNOR TO SAID SHRINER.

SOLE-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 582,510, dated May 11, 1897.

Application filed December 17, 1896. Serial No. 616,020. (No model.)

To all whom it may concern:

Be it known that we, CHARLES J. SHRINER, of Boston, county of Suffolk, and LEWIS T. ADAMS, of Whitman, county of Plymouth, State of Massachusetts, have invented an Improvement in Sole-Sewing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to sole-sewing machines, and has for its object to provide novel devices for varying the distance of the line of stitching from the side of the last or the upper thereupon, the invention being particularly useful in connection with what are commonly known as "full-edge shoes," wherein the contour of the sole lies at a considerable distance outside of the contour of the upper, means being provided by which to vary at will the distance of the line of stitches from the upper either in the same or in different shoes.

The particular features of our invention will be hereinafter particularly described, and pointed out in the claims.

In the drawings, Figure 1, in front elevation, illustrates a sufficient portion of a sole-sewing machine of well-known type to enable our invention to be understood, the devices embodying our invention being shown as applied to said machine; Fig. 2, a top or plan view of several of the parts of the machine, Fig. 1 better illustrating the manner of operation of the parts embodying our invention; Fig. 3, a vertical section, partial elevation, on the dotted line $x x$, Fig. 2; Fig. 4, a view similar to Fig. 2 with the parts in different position; Fig. 5, a detail to be referred to, and Fig. 6 a modification to be described.

We have herein elected to illustrate our invention in connection with one form of the well-known Goodyear sole-sewing machine—such, for instance, as that illustrated in United States Patent No. 473,870, dated April 26, 1892, to which reference may be had.

Referring to the drawings, the work-support or table d , the needle b^3 , the awl a^2 , the shuttle D^4 , the means for actuating the same, and the coöperating parts of the machine are and may be as shown in the said patent re-

ferred to, they operating in a manner well known to those skilled in the art, no further description of the same being deemed necessary herein.

In accordance with our invention we have provided what we shall herein denominate as a "stitching-gage," shown as in the form of a finger e of suitable irregular outline to enable it to be properly applied, the same, as herein shown, being adjustably secured, by means of a screw e' or other suitable clamping device, to one end of the carrier bar or plate e^2 , slotted at e^3 to receive the fulcrum pin or screw e^4 , carried by the bracket or support e^5 , secured to some fixed part of the machine.

The carrier-plate e^2 , at its end opposite the gage e , is herein shown as slotted longitudinally at e^6 to receive the clamping bolt or screw f , by which the said carrier-plate is adjustably secured to the box f' . (Shown best in Figs. 2 and 3.) This box f' , as shown, is grooved at its under side in a direction transverse to the length of carrier-plate e^2 to receive the roller or other suitable stud f^2 , secured, as by the set-screw f^3 , rigidly to the block f^4 , mounted to slide in a horizontal groove in the upper end of the head g of the hub g' of the hand-wheel g^2 . (See Figs. 1 and 3.) The wheel g^2 is loosely journaled on a stud g^3 , held at its lower end only in a suitable bracket or support g^4 , attached, preferably, to the column of the machine, as shown in Fig. 1. The sliding block f^4 is held in adjusted position in the slot in the head g of the wheel g^2 by suitable clamping devices, as the set-screws g^5 . (Shown best in Fig. 1.)

Referring now to Fig. 2, the carrier-plate e^2 , at its end adjacent the finger e , has pivoted to it at h one end of a link h' , pivoted at its opposite end at h^2 to the bracket e^5 or other suitable support.

The normal position of the finger e or stitching-gage may be as shown in Fig. 2, or further removed inwardly from the side of the upper, and with the parts in such position the shoe will be stitched in usual manner, the said shoe being held bottom up with the protruding edge of the sole resting upon the work-support or table d , along which it is fed by the operator.

When stitched with the shoe-sole resting in usual manner upon the work-support or table d , the line of stitches will follow the contour of the upper, which is the contour of the last within the upper, and at a distance outside of the upper equal to the distance of the center of the needle-hole or opening in the work-support from the outer edge of the work-support. It is frequently desirable, however, in the varying styles of boots and shoes to extend the sole and to carry the line of stitches farther from the outside of the upper than would be possible using the work-support or table d alone in order that such line of stitches might follow at a uniform distance in from the outer edge of the extension-edge sole, it being sometimes desired that the line of stitches vary as much as from three-sixteenths to one-quarter of an inch outside of the upper. To accomplish this with our invention, the operator rotates the hand-wheel g^2 , which, acting through the roller-stud f^2 after the manner of a crank, moves the box f' and the adjacent end of the carrier-plate e^2 bodily to the left, Fig. 2, the link h' at the same time causing said carrier-plate, by its longitudinal movement to the left, to be swung more or less forward, dependent upon the angularity of the link, so as to carry the preferably wedge-shaped end of the finger or stitch-gage e in front of the work-support d and between the said work-support and the upper upon the last, so that the said finger thereafter furnishes the abutment or wall against which the side of the upper is pressed during the stitching operation. The distance through which the stitch-gage e will be moved forward is dependent upon the distance through which the carrier-plate e^2 is moved to the left, which distance is varied or adjusted to meet the necessities of the case by the adjustment of the sliding block f^4 in the slotted head g of the hand-wheel, adjustment of said block varying the radial distance of the roller-stud f^2 from the axis of rotation of the said wheel, such adjustment also necessitating a new adjustment of the clamping-screw f in the slot e^6 of the carrier-plate in order that the stitch-gage e shall in each instance start from and return to the same position.

It is evident that by proper adjustment of the parts referred to rotation of the hand-wheel g^2 may be made to carry the stitch-gage e to any desired distance in front of the work-support to hold the last and the upper thereupon at any desired distance from the said work-support and the stitching mechanism carried thereby, so that the line of stitches may be made to fall at any distance outside of the upper which may be required by the particular style of shoe or the fancy of the operator.

The link or equivalent mechanism controlling the movement of the gage e of the carrier e^2 is preferably such that when the gage is removed out of use it is drawn bodily back

of the front face of the work-support, where it does not in any wise interfere with the stitching of a shoe in ordinary manner upon the work-support, but when the said gage is desired for use rotation of the wheel g^2 for moving it outwardly also swings in to a greater or less extent in front of the work-support to bring it into position as closely as practical to the stitching devices, this movement obviating any substantial change in the work-support usually provided in machines of this type.

In practice, to facilitate adjustment for the different classes of work we have provided the carrier-plate e^2 with an adjustable stop, shown as in the form of a plate o , adjustably attached by means of a screw o' , carried by the said plate and working through a slot in the stop-plate, the said stop-plate (see Fig. 2) having an inturned end o^2 , (shown in dotted lines,) which is adapted to strike or contact with the side of the bracket e^5 , on which the carrier-plate is mounted.

The operator will first adjust the stop-plate o so as to carry the overturned end o^2 to the desired distance from the side of the bracket e^5 , which may be determined by suitable graduations upon the stop-plate or the side of the carrier-plate e^2 on which it is mounted. The operator then slackens the set-screws g^5 and the clamping-screw f slightly and rotates the hand-wheel g^2 in the direction of the arrow to move the carrier-plate e^2 to the left until checked by the stop-plate o , thereafter continuing rotation of the said hand-wheel until the axis of the roller-stud f^2 falls in or nearly in line between the axis of the said wheel and the fulcrumed stud e^4 , when he will tighten the set-screws g^5 and the clamping-screw f . This manner of adjustment insures the movement of the carrier-plate e^2 and the stitch-gage the proper distance to the left and also by the link a proper distance forward, both of which are determined by the position of the stop-plate o^2 , and also insures that when the parts are in such desired position the roller-stud f^2 shall be nearly or quite on a dead-center line between the axis of the hand-wheel and the axis of the fulcrumed stud e^4 , so that it will, without other locking means, operate to effectually hold the stitch-gage in such adjusted position during operation of the machine.

If, as is frequently the case, it is desired to vary the distance of the line of stitches from the upper in some shoes from a maximum distance, determined by the adjustment of the stop-plate o^2 , to a minimum distance determined by the operator or by the work-support, this may be accomplished by the operator rotating the hand-wheel g^2 with one hand in a direction opposite the arrow while holding the last and shoe in working position with the other, said wheel being moved gradually or at desired times to withdraw the stitch-gage e gradually from its forward po-

sition to cause the stitches to follow any line desired by the operator.

The adjustable connection of the stitching-gage *e* with its carrier-plate enables the said gage to be adjusted more or less on the said carrier-plate for varying its outward throw by said plate without necessary change of the slide-block *f*⁴ and slotted box *f*¹, adjustment of the gage itself on the carrier-block being usually sufficient for slight adjustments, while the other adjustments are usually required when any substantial change is to be made.

In lieu of the link *h*¹ for providing a combined forward and longitudinal movement of the gage *e* we may have other suitable means—such, for instance, as illustrated in Fig. 6, wherein the stud *p*, mounted upon the bracket *e*⁵, works in a suitably-shaped cam-slot *p*¹ on the carrier-plate, producing precisely the movement that is produced in the construction Fig. 2.

Our invention is not limited to the particular embodiment herein shown, for it is evident that the same may be varied within the spirit and scope of our invention.

By the phrase in the claims "means to move the gage into position in front of the support within the limits of the guiding-face of the latter" we mean that the gage *e* is moved to occupy more or less of the space directly in front of the support *d* between the guiding-face of the latter and the work—that is to say, the gage is made to act as a gage by being brought in front of the face or that part of the support which normally guides or directly contacts with the work and between said face or part and the work itself.

The rotatable hand-wheel *g*² herein shown is one form of rotatable or swinging regulator for determining the adjustment or position of the stitching-gage, we having found that a swinging or rotatable regulator enables the operator to most easily and with the least care accurately adjust the stitching-gage, it requiring considerable movement of the regulator to produce any appreciable adjustment of the gage.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a sewing-machine of the class described, the combination with the work-support and stitch-forming mechanism, of a stitching-gage, means for giving said gage a combined forward and lateral movement to enable it to be moved from the side of said work-support into position more or less in front of said work-support, substantially as described.

2. In a sewing-machine of the class described, the combination with the work-support and stitch-forming mechanism, of an adjustable stitching-gage adapted to be adjusted forwardly and laterally and a fulcrumed regulator coöperating with said gage

for effecting said adjustment of the said gage, substantially as described.

3. In a sewing-machine of the class described, a stitching-gage, and means for giving said gage at its end a combined forward and lateral movement, said means causing the extent of forward movement to vary according to the extent of lateral movement, substantially as described.

4. In a sewing-machine of the class described, the combination with a work-support having a work-guiding face, of a stitching-gage normally back of said guiding-face, and means to move said gage into position in front of said support within the limits of said face, substantially as described.

5. In a sewing-machine of the class described, the combination with an adjustable stitching-gage, of an adjustable stop connected to move as said gage moves to limit the outward movement of the same, substantially as described.

6. In a sewing-machine of the class described, a stitching-gage and its carrier-bar, means to move said bar longitudinally, means to automatically shift its gage end sidewise, and a fulcrum-pin to steady and guide said bar, substantially as described.

7. In a sewing-machine of the class described, a stitching-gage, and means to move it, said means including a hub and hand-wheel fixedly journaled to rotate, and an eccentric connection between said hub and said gage, whereby rotation of said hand-wheel gradually moves the gage as desired, substantially as described.

8. In a sewing-machine of the class described, a stitching-gage, its carrier-bar, said carrier-bar having an elongated slot intermediate its ends, a fulcrum-pin for said slot, and means to move said bar, said means including a rotatable hub, and an eccentric connection between said hub and said bar, to cause the latter to swing and to move longitudinally on its said fulcrum-pin, substantially as described.

9. In a sewing-machine of the class described, a stitching-gage, and its carrier-bar, said carrier-bar having an elongated slot intermediate its ends, a fulcrum-pin for said slot, and means to move said bar, said means including a rotatable hub, and an eccentric connection between said hub and said bar, to cause the latter to swing and to move longitudinally on its said fulcrum-pin, and means to adjust said eccentric connection, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHAS. J. SHRINER.
LEWIS T. ADAMS.

Witnesses:

AMOS A. PHELPS,
EDWARD A. PHELPS.