

No. 667,677.

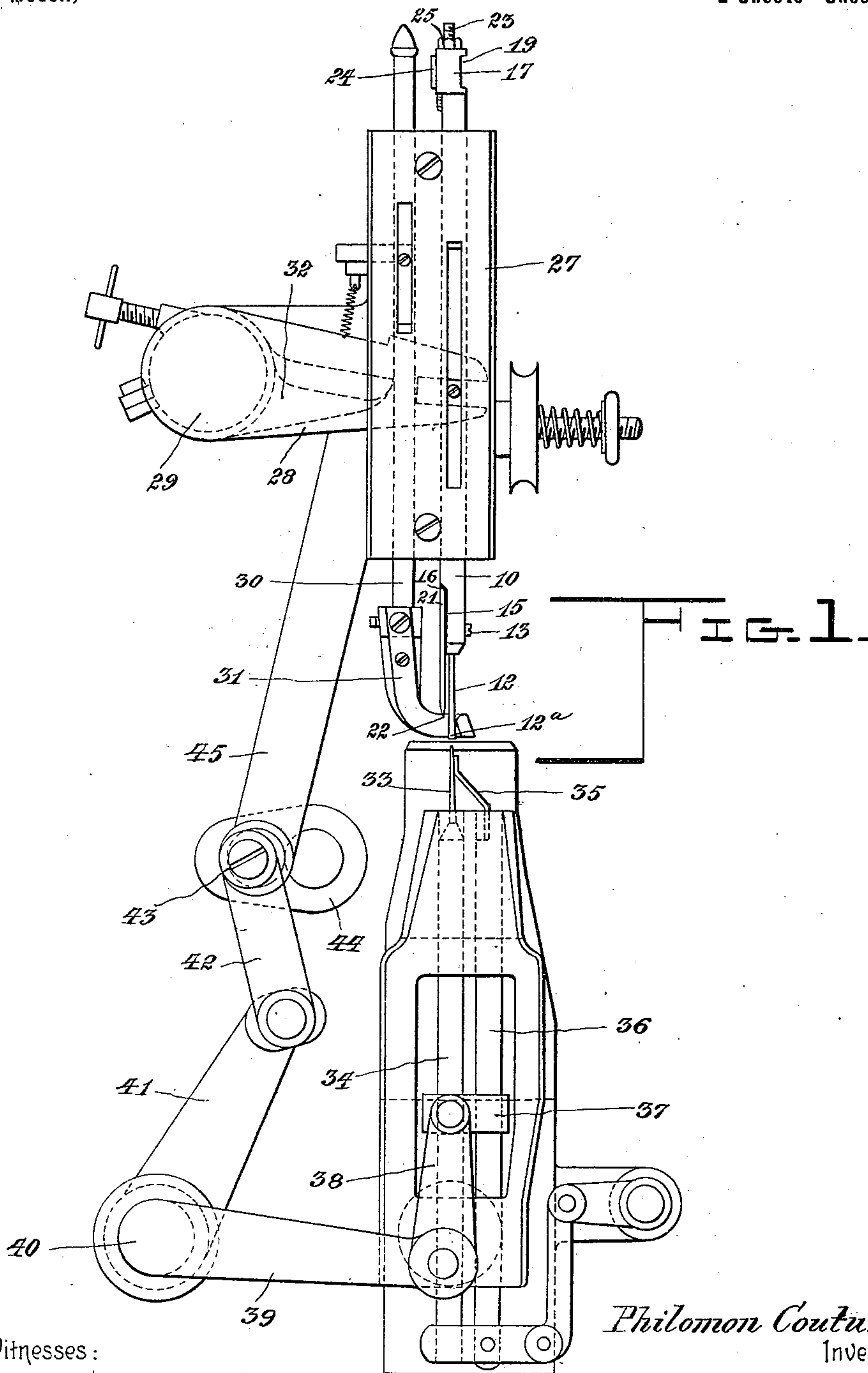
Patented Feb. 12, 1901.

P. COUTURE.
STITCH SEPARATOR FOR SEWING MACHINES.

(Application filed Sept. 4, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

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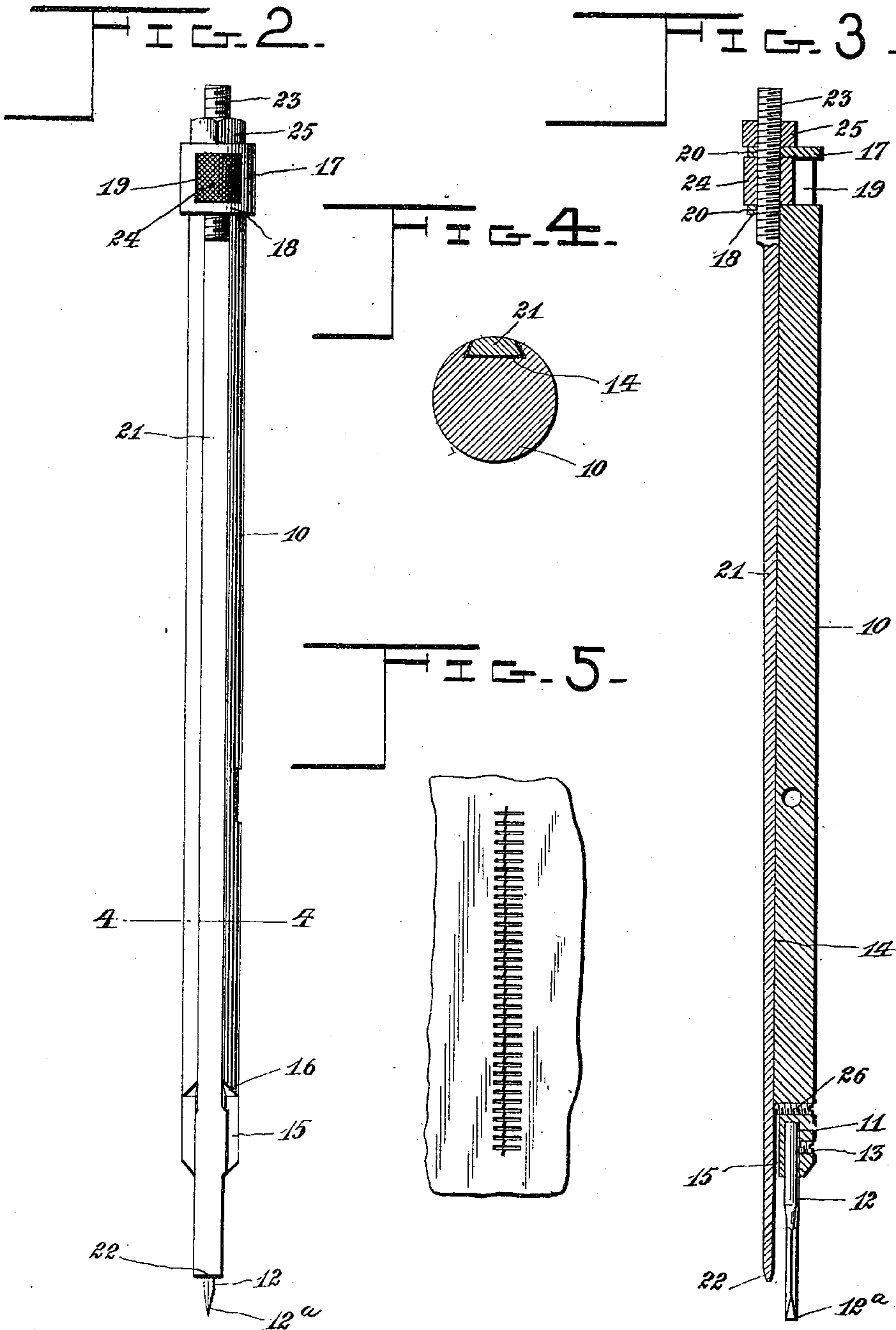
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UNITED STATES PATENT OFFICE.

PHILOMON COUTURE, OF ST. ROCHS, CANADA, ASSIGNOR TO DEMERS & CO.,
OF SAME PLACE.

STITCH-SEPARATOR FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 667,677, dated February 12, 1901.

Application filed September 4, 1900. Serial No. 28,969. (No model.)

To all whom it may concern:

Be it known that I, PHILOMON COUTURE, a subject of Her Majesty the Queen of Great Britain, residing at St. Rochs, city and district of Quebec, Province of Quebec, Canada, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in sewing-machines of that class which are primarily designed for sewing leather, such as boots and shoes, with an ornamental stitch of the character distinguished in the art as a "fair-stitch."

One object of the invention is to provide the ordinary leather-sewing machine with a simple device adapted to produce the continuous series of parallel grooves or indentations arranged transversely to the line of the stitch and adapted to receive the thread in a manner to produce the desired ornamenting fair-stitch.

A further object of the invention is to provide means for adjusting the fair-stitch separator, so as to vary the relation of its operative end to the sewing-awl, whereby the separator may be adapted to work of different thicknesses—as, for instance, in ornamenting the soles of shoes or boots to be worn by men or women.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelty in the combination of devices and in the construction and arrangement of parts will be defined by the claims.

In the drawings hereto annexed and forming a part of this specification, Figure 1 is a front view of a portion of an ordinary boot or shoe sole sewing machine, showing the awl-bar thereof equipped with a fair-stitch separator of my invention. Fig. 2 is an enlarged view, in side elevation, of the awl-bar modified to receive the fair-stitch separator contemplated by this invention. Fig. 3 is a longitudinal sectional elevation of the parts shown by Fig. 2. Fig. 4 is a transverse section, on an enlarged scale, taken in the plane of the dotted line 4 4 on Fig. 2. Fig. 5 is a detail fragmentary view of a piece of work, illustrating the fair-stitch ornamentation produced by the sewing-machine equipped with my improvement.

The same numerals of reference denote like parts in the several figures of the drawings.

The device which is adapted to form the grooves of the fair-stitch is mounted on and carried by the reciprocatory awl-bar of an ordinary shoe or boot sole sewing machine, and in carrying the invention into practice it is necessary to modify the construction of the awl-bar in order to adapt it to receive the element which will hereinafter be designated as the "fair-stitch separator."

The awl-bar 10 is shown more clearly by Figs. 2, 3, and 4 as having a socket 11 at its lower portion adapted to receive the awl 12, the latter being held securely in the socketed lower portion of said awl-bar by the clamping-screw 13, which is set flush with the awl-bar. As thus far described the awl-bar is similar to devices common in sole-sewing machines; but I find it necessary to provide said awl-bar with a longitudinal guide channel or way 14. Said channel extends nearly the full length of said awl-bar, it is of dovetailed form in cross-section, as shown by Fig. 4, and it is formed so as to have its narrow side open through one face of the awl-bar. Furthermore, the lower portion, or, as it may be called, the "foot," of the awl-bar is cut away, as at 15, to produce a shoulder 16, (shown by Figs. 2 and 3,) and the lower portion of the dovetailed way 14 extends or opens through said shoulder 16. Furthermore, the upper portion of the awl-bar is formed with an integral head 17, the same being substantially circular in cross-section and disposed in eccentric relation to the axis of the cross-sectionally-circular awl-bar, thus providing on the under side of said eccentric head a shoulder 18, which projects from the channeled face of the awl-bar. (See Figs. 2 and

3.) An opening or slot 19 is cut through this eccentric head 17, which slot accommodates an adjusting-nut, as will presently appear, and the eccentric head 17 is furthermore provided with smooth openings 20 at points above and below the transverse slot 19, said openings 20 being in line with the longitudinal channel 14.

The stitch-separator is a straight thin bar 21, having beveled edges to give the same a dovetailed form in cross-section, so as to correspond to the guide-channel of the awl-bar, and this separator-bar is fitted snugly in said channel 14, so as to be slidably fitted in the awl-bar, the exposed face of the separator-bar being curved and occupying a flush relation with the surface of the awl-bar. The lower portion or foot of the separator-bar passes through the cut-away or notched foot of the awl-bar, as shown by Figs. 2 and 3, and said foot portion of the separator-bar has a chisel-shaped working end 22, the latter terminating at one side of the awl 12 and at a suitable distance above the cutting end thereof. The upper extremity of the separator-bar is formed with a screw-threaded shank 23, which passes through the smooth openings 20 and the slot 19 of the eccentric head. An adjusting-nut 24 engages with this threaded stem of the separator-bar and is confined in the slot 19 of said head, so as to be held by the awl-bar against endwise movement; but this nut is free to rotate in the slotted head for the purpose of giving the desired adjustment to the separator-bar. Said nut has a milled surface which is exposed through the slot 19 at one side of the awl-bar, and it is evident that the nut may easily be grasped, so that it may be turned in either direction, whereby the bar 21 may be given an endwise adjustment either up or down, so as to vary the distance between its operative chisel end 22 and the point of the awl 12. A set-nut 25 is screwed to the protruding end of the threaded stem 23 and is adapted to bind upon the top end face of the slotted head 17, so as to hold the separator-bar against movement. A guide-screw 26 is threaded into the awl-bar at a point above the awl-socket, said screw engaging with the inner face of the separator-bar 21 and being adjustable for the purpose of setting the free chisel end 22 laterally with respect to the awl.

The awl-bar 10 is slidably fitted in the head 27 of the sewing-machine, and with this awl-bar engages the lever 28 of the awl-bar rocker-shaft 29. The presser-foot bar 30 carries the presser-foot 31 and is engaged by the presser-foot lifter 32, which is indicated by dotted lines in Fig. 1. The usual needle 33 is carried by the needle-bar 34, and in operative relation to this needle is the cast-off 35, the latter being carried by the cast-off bar 36. The needle-bar block 37 has operative connection through the shank 38 through the rocker-lever 39 on the needle-bar rocker-shaft

40, the latter having a lever 41, which is linked at 42 with the eccentric stud 43 on the crank 44, said crank having a link connection 45 with the awl-bar rocker-lever 28. All these parts are ordinary in the art, and as their operation is understood by those skilled in this class of machinery I have not considered it necessary to set forth the operation of these features.

In the embodiment of the awl 12 and the separator-bar herein shown and described the awl is provided with a chisel-point 12^a. As the awl-bar descends to carry the awl 12 through the leather the separator-bar 21 moves downwardly therewith and the chisel edge 22 of said separator-bar indents or makes a groove in the leather, such groove being formed at a point to one side of the opening produced by the awl 12 and the groove lying across the line of the stitch. On the next descent of the awl-bar another groove is formed by the edge 22 of the separator-bar in a similar way, and this groove is parallel to the first groove or substantially so. A series of these grooves are produced in the work, and the thread is carried through the perforations produced by the awl and around the walls of the grooves in a manner familiar to those skilled in the art, thereby producing the desired ornamental fair-stitch.

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described my invention, what I claim as new is—

1. In a fair-stitch sewing-machine, an awl-bar provided with a longitudinal guide-channel and with a slotted head, in combination with a separator-bar fitted in the channel and having a threaded stem which passes through said slotted head, an awl clamped to the awl-bar, and an adjusting-nut confined in the slotted head and engaging with the threaded stem of the separator-bar, whereby the nut is carried by the awl-bar and it serves as a means for giving nicety of adjustment to the separator-bar and also for locking the latter in its adjusted position, substantially as described.

2. In a fair-stitch sewing-machine, the combination of an awl-bar, an awl clamped thereto, a separator-bar slidably connected to the awl-bar and having a threaded stem, an adjusting-nut held on the awl-bar and engaging with said stem of the separator-bar, and a lock-nut also engaging with the stem and with the awl-bar, whereby the nut is carried by the awl-bar and it serves as a means for giving nicety of adjustment to the separator-bar and also for locking the latter in its adjusted position, substantially as described.

3. In a fair-stitch sewing-machine, the com-

5 bination with an awl-bar, and an awl carried thereby, of a separator-bar slidably connected to the awl-bar, and a female-threaded nut seated on the awl-bar for revoluble adjustment thereon and having threaded connection with the separator-bar, whereby said separator-bar may be moved toward or from the awl-point by revoluble adjustment of said nut

which also serves as a lock to retain the separator-bar in place, substantially as described. 10

In witness whereof I have hereunto set my hand in the presence of two witnesses.

PHILOMON COUTURE.

Witnesses:

G. A. BELLEAU,
CHR. LUEHLMAN.