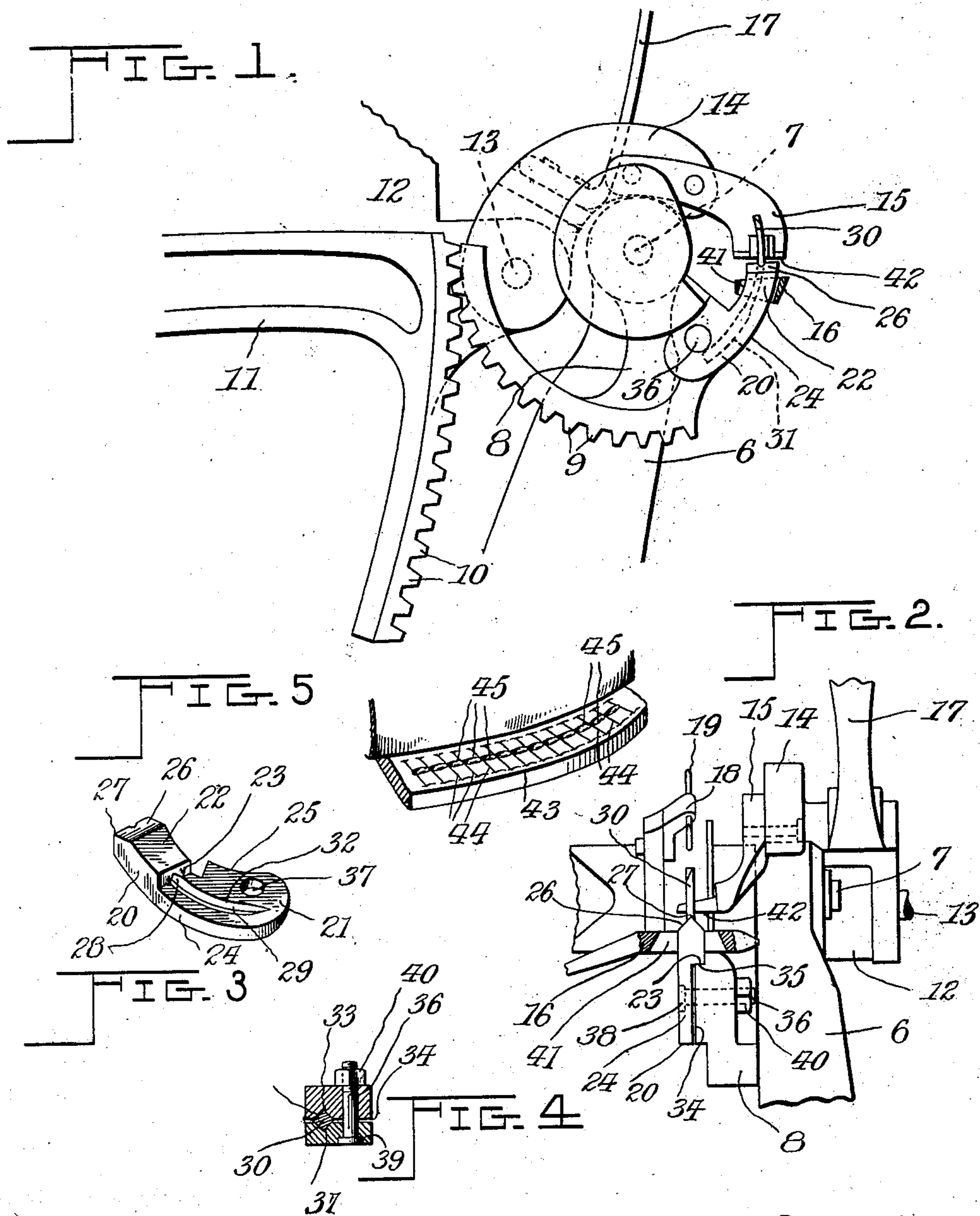


No. 751,523.

PATENTED FEB. 9, 1904.

J. LAURIN.  
SEAM FINISHER FOR SHOE SEWING MACHINES.  
APPLICATION FILED MAR. 21, 1903.

NO MODEL.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JOSEPH LAURIN, OF MAISONNEUVE, CANADA.

## SEAM-FINISHER FOR SHOE-SEWING MACHINES.

SPECIFICATION forming part of Letters Patent No. 751,523, dated February 9, 1904.

Application filed March 21, 1903. Serial No. 148,953. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH LAURIN, a subject of the King of Great Britain, residing at Maisonneuve, county of Hochelaga, Province of Quebec, Canada, have invented certain new and useful Improvements in Seam-Finishers for Shoe-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 shoe machinery, and is especially concerned with the construction of a seam-finisher.

My object is to provide an improved arrangement for making the indentations which are formed in the outsole of shoes between the successive stitches for the purpose of improving the appearance of the shoe. It is of course necessary that the indentations should occur midway between the awl-holes for the sake of the appearance. Where these indentations are made by machinery, the awl and the separator-tool often operate in conjunction, and it is then necessary to provide some sort of an arrangement for adjusting the position of the separator-tool with respect to the awl, and while it is quite feasible to do this where the length of the stitch remains unchanged difficulties are met with where it is desired to vary the length of the stitch during the sewing of a seam.

The invention contemplates such an arrangement as enables the awl and the stitch-separator to operate in the same plane and, indeed, so that they may operate simultaneously.

The invention further consists in the construction and combination of parts to be more fully described hereinafter and definitely set forth in the claims.

In the drawings, which fully illustrate my invention, Figure 1 represents in side elevation a portion of a boot-sewing machine to which my invention has been applied. Fig. 2 represents the parts shown in Fig. 1, but substantially in front elevation. Fig. 3 is a perspective view representing the separator or separator-tool which constitutes a feature of my invention. Fig. 4 represents a cross-section through the separator and a portion

of the awl-segment. Fig. 5 represents in perspective a portion of a shoe, showing a finished seam.

Throughout the drawings and specification the same numerals of reference indicate like parts.

Referring more particularly to the parts, 6 represents a standard, which constitutes the upper portion of the feed-slide of the machine, and this standard carries a stud 7, upon which is rotatably mounted the awl-segment 8, the teeth 9 of which cooperate with the teeth 10 of the awl-lever 11. Upon the frame 12 there is mounted a stud 13, which constitutes a pivot for the presser-foot lever 14, which lever projects forwardly above the awl-segment and carries at its front the presser-foot 15. The lower face of this presser-foot lies just above the table 16, upon which the boot-sole is intended to rest and where it is pressed against the presser-foot 15. The presser-foot lever 14 is provided with a suitable handle 17, which enables the presser-foot to be thrown back out of operative position whenever desired. As indicated in Fig. 2, a needle-arm 18 is disposed adjacent to the parts already described and carrying a needle 19, which cooperates with the awl in the usual manner. It should be understood that the mechanism which has just been described is that very commonly used in machinery of this class.

In applying my invention to such a machine I provide a separator 20 of the construction shown in Fig. 3. It should appear that it comprises a body 21 and a head 22, which head is of substantially twice the thickness of the body and comprises an abrupt face 23, which constitutes a shoulder the purpose of which will appear hereinafter. It should appear that the edges 24 and 25 of this tool are formed in an arc the center of which would be at the axis of the stud 7 when the separator has been attached to the awl-segment in the manner indicated in Fig. 1, and it should appear, too, that the body 21 of the tool is of greater width than the head 22, as indicated. The extremity of the head 22 is formed with oppositely-beveled faces 26, which meet to form an edge or V-point 27, and it will be understood that



this edge 27 forms the aforesaid indentations by pressing the sole or seam against the presser-foot 15. I provide this tool with an opening 28, which is disposed substantially longitudinally with the head and which is formed upon an arc the center of which should be at the axis of the stud 7 when the tool is mounted upon the awl-segment in the manner indicated in Fig. 1. It should appear that this opening is substantially in the central plane of head 22, so that it pierces centrally the aforesaid edge 27. This opening emerges at the aforesaid shoulder 23, from which point it continues in the body 21 in the form of an open groove or recess 29. It should be observed that this recess and the opening taper toward the edge 27.

The aforesaid opening 28 is intended to receive the awl 30 in the manner indicated in Figs. 1, 2, and 4, which awl is in the usual curved form comprising an enlarged shank 31 of substantially square section, as indicated in Fig. 4. It should appear from an inspection of Figs. 4 and 5 that the groove 29 is formed with inclined or beveled faces 32, so that the groove conforms substantially to the outline of one-half of the section of the said shank. A corresponding groove or recess 33 is provided in the face 34 of the awl-segment 8, as indicated in Fig. 4. From this arrangement it will be understood that the awl-shank may be clamped securely between the awl-segment and the separator-tool. It has been customary heretofore to clamp the awl to the awl-segment by means of an awl-cap, which was intended especially for this purpose. An inspection of Figs. 2 and 4 should elucidate the arrangement and the manner of attaching the stitch-separator and awl to the awl-segment. It should appear that the separator-tool is attached so that the aforesaid shoulder 23 lies against a corresponding shoulder 35, formed in the awl-segment, the outline of the separator-tool conforming substantially to that of the adjacent portions of the awl-segment. A bolt 36 affords means for clamping the parts, and this bolt passes through an opening 37, formed in the body of the separator, and, as will appear, the bolt has an enlarged head 38, which is received in a counterbore 39, formed with said opening. The position of this bolt with respect to the separator is preferably substantially that shown, it being located near the lower extremity of the body and adjacent to the groove 29, which receives the shank. As indicated in Fig. 2, when the parts have been placed together the awl 30 projects outwardly from the aforesaid edge 27, and it should readily appear that the distance the awl projects can be readily adjusted by loosening the nut 40 of the bolt 36 and clamping the parts in a new position. It should be observed, too, that though only one bolt is used for clamping the parts together the same is quite sufficient for maintaining the parts rig-

idly, for the reason that the shank of the awl coöperates with the groove in the face of the awl-segment to prevent any lateral movement of the separator. The shoulder 23 also coöperates to maintain the parts rigidly together, and this shoulder is also the means of transmitting the force from the awl-segment to the separator-tool without throwing an undue lateral strain upon the bolt 36.

In the operation of the device the awl-lever 11, which has already been described, is oscillated in a vertical plane, so as to drive the awl-segment 8, oscillating the latter about its stud or pivot 7. In this manner the stitch-separator and the awl are reciprocated in an arc the center of which lies upon the axis of the stud 7, the awl and the point of the separator-tool passing in and out of the throat 41, formed in the aforesaid table 16. As usual, the edge 43 of the boot-sole is received between the lower face 42 of the presser-foot and the upper face of the table 16 and in a reverse position. As the awl advances upwardly and passes through the stock of the sole the edge 27 of the separator-tool at the same time presses against the seam and produces the desired indentations 44, which are in alinement with the opening made by the awl and exactly between the stitches 45. In this manner the awl and the separator-tool operate simultaneously and in many respects as though they constituted but one tool. The indentation is made exactly at the point wanted and will always be at that point whatever be the length of the stitches or variations in their length. The needle 19 coöperates with the awl in the usual manner obtaining in machines of this kind.

While I have shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

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

1. In combination, a separator-tool having an opening therein passing through the edge thereof, and an awl mounted in said opening and projecting beyond the edge of said tool.

2. In combination, a separator-tool having an opening therethrough passing through the edge thereof, an awl carried in said opening, an awl-segment, and means for simultaneously clamping said tool, said awl, and said segment.

3. In combination, an awl-segment, a separator-tool, said separator-tool having an opening through the point thereof, an awl carried



in said opening, a portion whereof lies between said separator-tool and said segment, and means for clamping said separator-tool to said segment.

5 4. In combination, a segment, a substantially V-pointed separator-tool, said tool having an opening through the point thereof, said segment and said separator-tool having cooperating faces and grooves formed therein cooperating to form a recess which constitutes a continuation of said opening, an awl mounted in said recess, and a bolt adapted to clamp said separator-tool to said segment, whereby said  
10 awl is held in place.

15 5. In combination, an awl-segment, a separator-tool carried thereby and having a head

with an opening therethrough, said head having a shoulder, said segment having a shoulder cooperating therewith, said segment and said separator-tool having a recess formed therebetween, and an awl carried in said recess and projecting outwardly from said opening.

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

JOSEPH LAURIN.

Witnesses:

J. A. MARION,

T. MYNARD.