No. 712,669. Patented Nov. 4, 1902.

J. B. HADAWAY.

TOOL FOR STITCH SEPARATING MACHINES.

(Application filed Jan. 13, 1902.)

(No Model.)

Fig: 1.

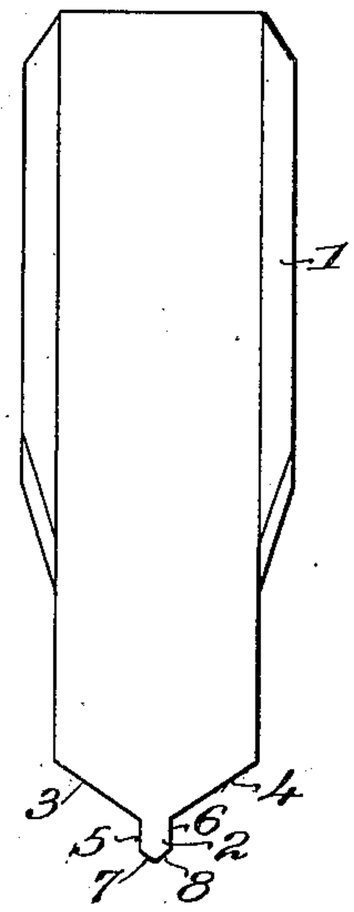


Fig: 2.

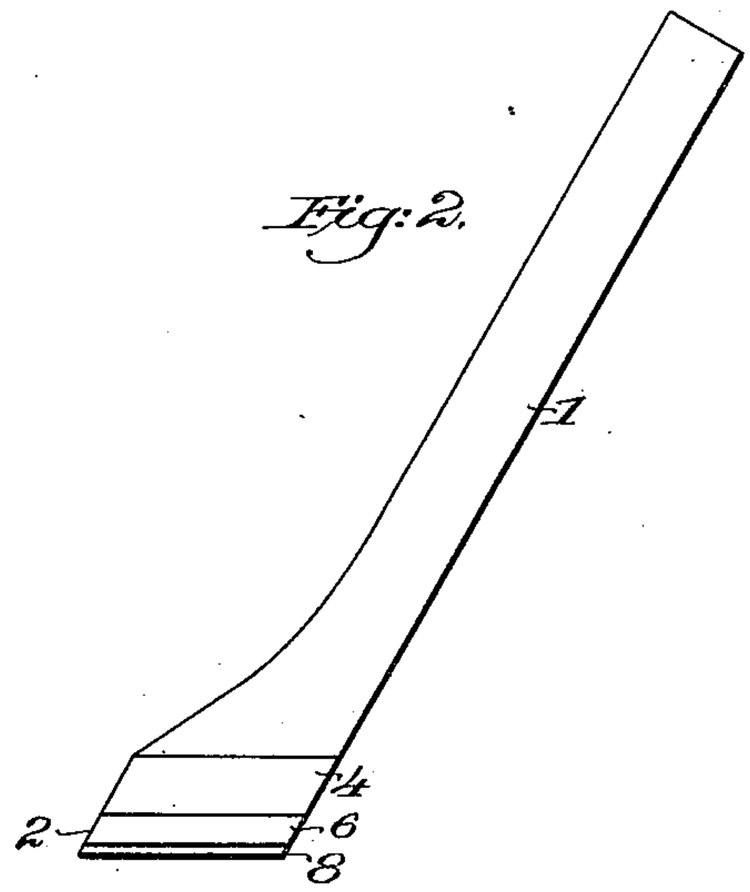


Fig: 3.

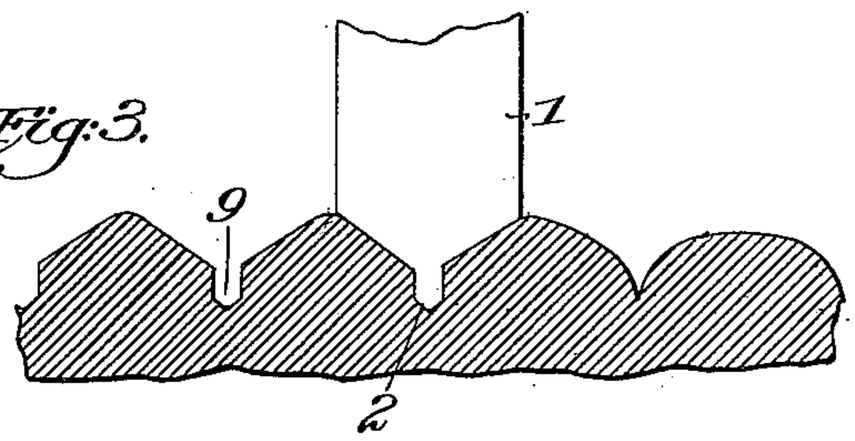
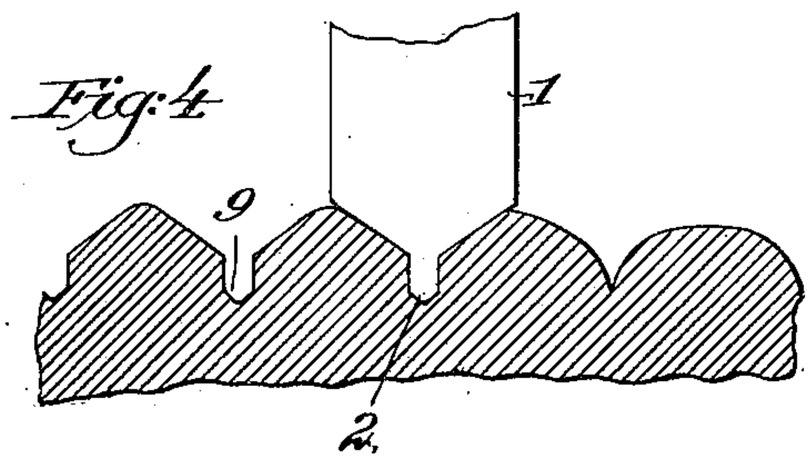


Fig: 4.



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UNITED STATES PATENT OFFICE.

JOHN B. HADAWAY, OF BROCKTON, MASSACHUSETTS.

TOOL FOR STITCH-SEPARATING MACHINES.

SPECIFICATION forming part of Letters Patent No. 712,669, dated November 4, 1902.

Application filed January 13, 1902. Serial No. 89,564. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. HADAWAY, a citizen of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Tools for Stitch-Separating Machines; and I do hereby declare the following to be 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.

The present invention relates to an improved tool for stitch-separating machines.

All practically operative stitch-separating machines which are adapted to act upon the shoe after the seam has been finished have provision for compensating for the slight variations in the length of the stitches which occur in all boot and shoe work in order to prevent the tool from striking upon the crowns of the stitches instead of in the stitch intervals. In most stitch-separating machines adapted to act upon a finished seam and in all such machines which have gone into general use this result is effected in a simple and reliable manner by the coöperative action of the indenting-tool and the stitches of the seam, means being provided whereby the tool and the work are moved or allowed to move relatively to each other while the tool is in engagement with the work in order to locate the point of the tool in the stitch intervals. In practice it has been found that in order to cooperate with the stitches to locate the point of the indenting-tool in the stitch intervals the indenting-tool must be provided with an indenting point or blade the lateral surfaces of which are arranged at a right angle or at an acute angle to each other, as when the lateral surfaces of the blade or point are arranged at an obtuse angle the working end of the tool is too blunt either to enter the stitch intervals a sufficient distance to insure the proper location of the tool therein while the work and tool are held yieldingly in contact or to produce a relative movement of the work and tool during the indenting operation.

In many stitch-separating machines the work is fed by a lateral movement of the tool, and in these machines it has been found that a tool provided with an indenting point or blade the lateral surfaces of which are arranged at an obtuse angle does not obtain a sufficient hold upon the work to feed it properly.

For the reasons above stated all attempts to utilize stitch-separating machines to produce wide and shallow indentations have been unsuccessful. This form of indentation is, however, highly desirable, as thereby the crowns of the stitches are formed more or less pointed and a striking and pleasing appearance is imparted to the seam which cannot be obtained when the indentations are narrow and the crowns of the stitches rounded.

The object of my invention is to provide a stitch-separating tool which can be used in stitch-separating machines to produce wide and shallow indentations; and with this object in view my invention consists in a stitch-separating tool provided with a stitch-separating blade to enter and indent a stitch interval and with lateral plane surfaces above and on each side of the blade arranged at an obtuse angle to each other.

A tool constructed according to my invention can be used in a stitch-separating machine as satisfactorily as the tools which have heretofore been used to produce relatively narrow and deep indentations, as the blade coöperates with the stitches of the seam to properly locate the blade in the stitch intervals in the same manner as the blade of prior tools and can likewise be used to feed the work. The lateral plane surfaces above and on each side of the blade press upon the adjacent ends of the stitches when the tool is forced against the work with an indenting-pressure and flatten them down, so that the effect produced by the tool is substantially the same as that of a tool provided with an indenting-blade the surfaces of which are arranged at an obtuse angle. The crowns of the stitches of a seam which has been acted upon by a tool constructed according to my invention are more or less pointed, and an important and valuable feature of my invention resides in the fact that the same tool can be used to impart a different shape to the crowns of stitches of the same length and to impart the same shape to the crowns of stitches of different lengths, whereby the use of a different tool for each shape of crown desired or for each length of stitch is rendered un-

necessary. These results are secured by forcing the tool different distances into the work during the indenting operation, as will be hereinafter more fully described.

Tools designed to shape the crowns of stitches have heretofore been devised, such tools being disclosed in my prior patents, No. 653,236, dated July 10, 1900, No. 667,086, dated January 29, 1901, and No. 688,411, dated December 10, 1901. The tools disclosed in these patents are, however, provided with concave surfaces to impart a rounded shape to the crowns of the stitches, and consequently a single tool can only be used to shape the crowns of stitches of a given length and to impart but one shape thereto.

I believe that I am the first in the art to provide an indenting-tool which can be used in stitch-separating machines in which the tool coöperates with the stitches of the seam to compensate for variations in the length of the stitches to produce wide and shallow indentations. I also believe that I am the first in the art to provide an indenting-tool which can be used in stitch-separating machines in which the tool coöperates with the stitches of the seam to compensate for variations in the length of the stitches to impart different shapes to the crowns of stitches of the same length or the same shape to the crowns of stitches of different lengths.

My invention will be readily understood from the accompanying drawings, in which—

Figure 1 is a view in front elevation of an indenting-tool embodying the same. Fig. 2 is a view in side elevation thereof, and Figs. 3 and 4 are somewhat diagrammatic views illustrating the action of the tool upon seams the stitches of which are of different average length.

The tool (designated as a whole by the numeral 1) is provided with an indenting-blade 2. Above the blade 2 the tool projects on each side and is provided with lateral plane surfaces 3 and 4, which are arranged at an obtuse angle to each other. As shown, the lateral surfaces of the blade consist of two surfaces 5 and 6, arranged substantially parallel, and two surfaces 7 and 8, arranged at a right angle or at an acute angle to each other, the edge of the blade formed by the converging surfaces 7 and 8 being slightly rounded off in order to prevent the edge from cutting or injuring the stitches of the seam when the tool is brought into contact therewith and also to enable the tool to slide over the stitch during the operation of locating the tool in a stitch interval.

The action of the tool upon the stitches of the seam will be evident from an inspection of Figs. 3 and 4, which show somewhat diagrammatically the appearance of the stitches of the seam both before and after the action of the tool thereon. From these figures it will be noted that the indenting-blade 2 forms an indentation 9 between adjacent stitches and flattens down the ends of the stitches on each side of the stitch interval, so that the crown of the stitch is given a pointed shape. It will be seen that the indenting-blade 2 corresponds to and is capable of performing all the functions of the indenting-blade of an ordinary indenting-tool which has heretofore been used to produce a deep and narrow indentation between the stitches. Thus the blade 9 is capable of coöperating with the stitches of the seam to locate the blade in the stitch intervals and after having been forced into the work can be utilized to feed the work with certainty. The tool therefore possesses all the advantages of the ordinary indenting-tool which has heretofore been successfully used and in addition imparts to the stitches of the seam substantially the same appearance as would be imparted by a stitch-separating tool provided with an indenting-blade the lateral surfaces of which are arranged at an obtuse angle. It will be noted that the crowns of the stitches shown in Fig. 3, which have been acted upon by the tool, are somewhat pointed, but that the apex of the crowns is slightly rounded. If it is desired to shape the crowns of the stitch with either a more pointed or more rounded apex, this result can be accomplished by forcing the indenting-tool a greater or a less distance into the work. Thus the same tool can be utilized to impart different shapes to the crowns of stitches of the same length. The stitches of the seam illustrated in Fig. 4 are of less length than the stitches of the seam shown in Fig. 3. It will be noted, however, that the crowns of the stitches shown in Fig. 4 which have been acted upon by the tool are of the same shape as the crowns of the stitches shown in Fig. 3 which have been acted upon by the tool. This result is accomplished, as will be evident from an inspection of the figures, by forcing the indenting-tool a less distance into the work. The same tool can thus be used to impart the same shape to the crowns of stitches of different lengths.

Having thus described my invention, I claim as new and desire to secure by Letters Patent of the United States—

A stitch-separating tool provided with a stitch separating and indenting blade and with lateral plane surfaces above and on each side of the blade arranged at an obtuse angle to each other.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN B. HADAWAY.

Witnesses:

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ALFRED H. HILDRETH.