

No. 786,891.

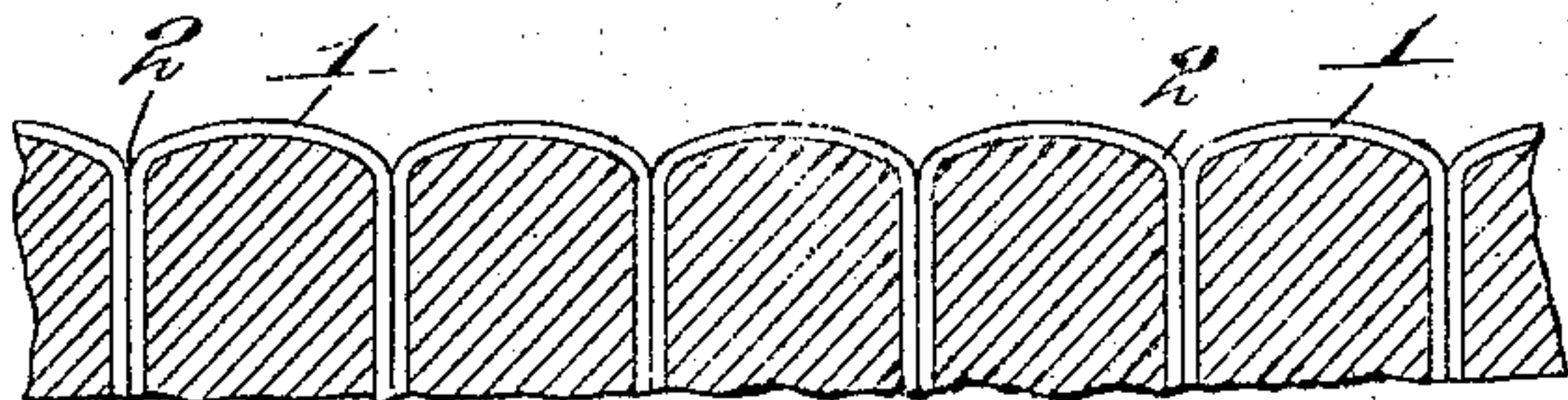
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J. B. HADAWAY.

METHOD OF SEPARATING AND INDENTING STITCHES OF FINISHED SEAMS.

APPLICATION FILED JUNE 18, 1904.

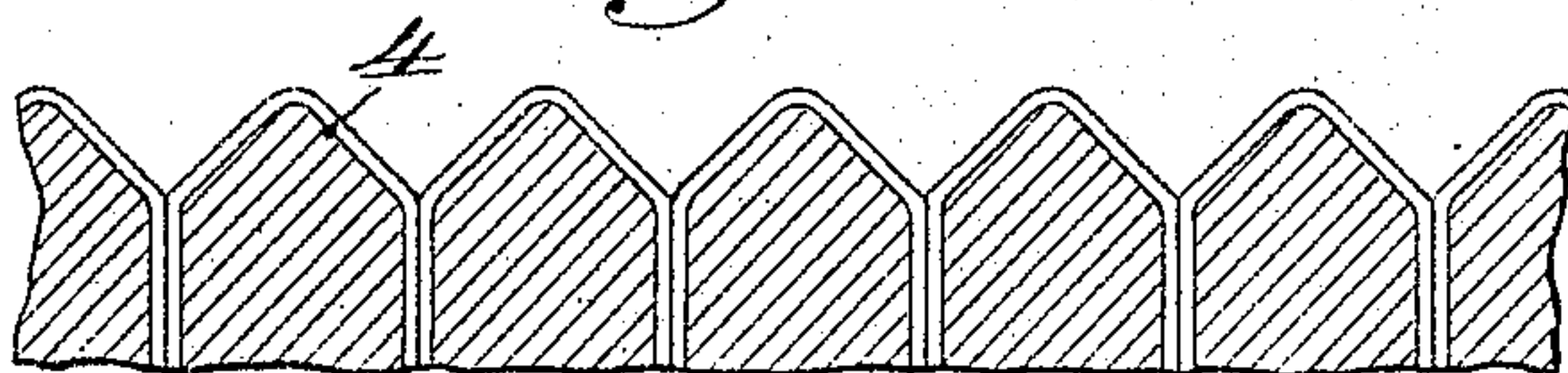
*Fig. 1.*



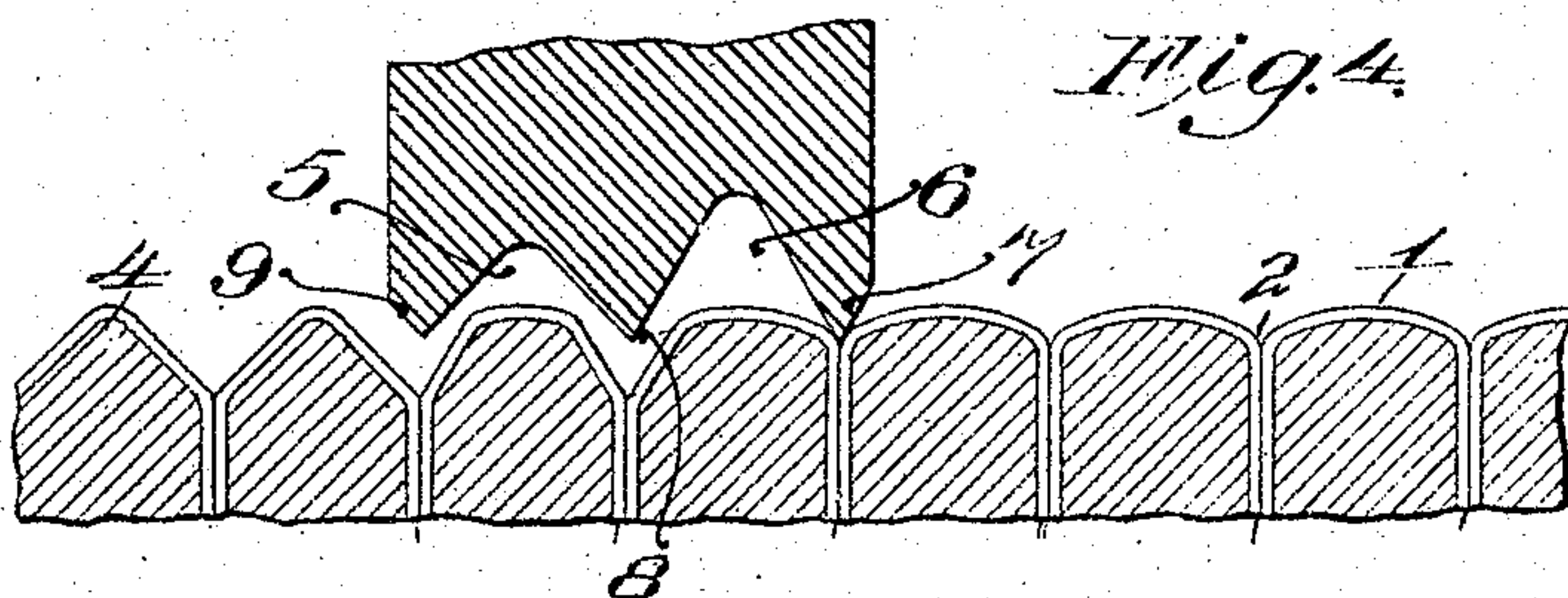
*Fig. 2.*



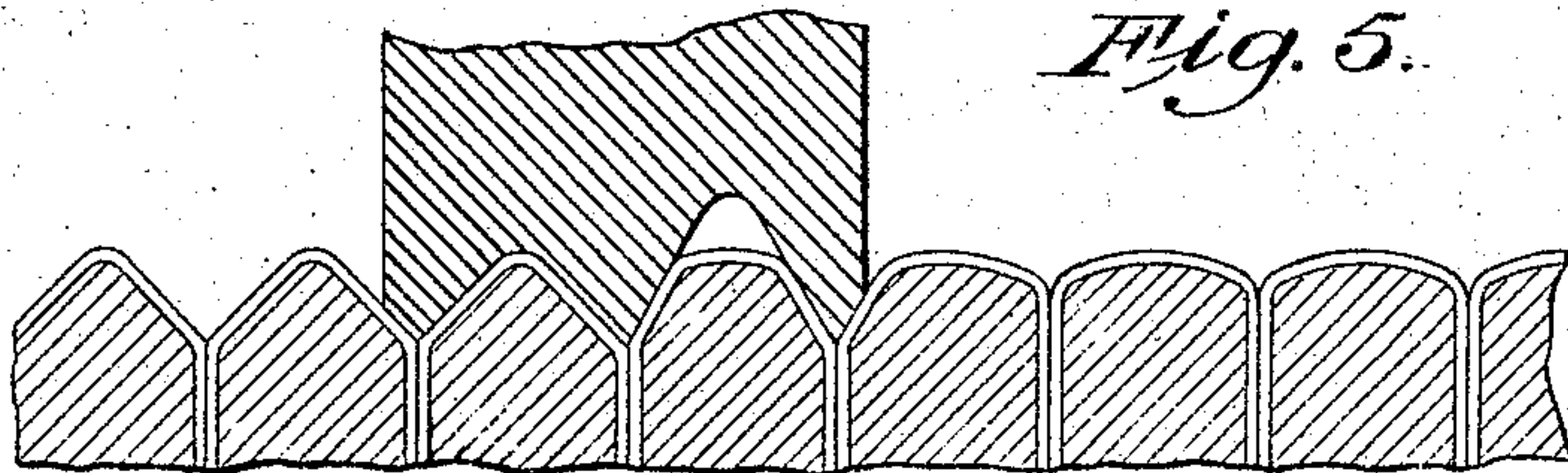
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

JOHN B. HADAWAY, OF BROCKTON, MASSACHUSETTS.

METHOD OF SEPARATING AND INDENTING STITCHES OF FINISHED SEAMS.

SPECIFICATION forming part of Letters Patent No. 786,891, dated April 11, 1905.

Application filed June 18, 1904. Serial No. 213,092.

*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 Methods of Separating and Indenting the Stitches of a Finished Seam; 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.

In operating upon a finished seam to indent the intervals between the stitches and to shape the crowns of the stitches it has heretofore been the practice to shape the crown of a stitch simultaneously with the formation of the indentation which separates the stitch from the succeeding stitch, a tool provided with a single groove of the shape which it is desired to impart to the crown of the stitch being usually employed. It is desirable that the groove in the tool be shallow in order that the crowns of the stitches may be separated by wide indentations, so as to bring them into prominence, the best results being secured when the side walls of the groove are arranged at an angle of about ninety degrees with relation to each other. When, however, the tool is provided with a shallow groove, difficulty is experienced in causing the tool to impart the desired shape to the crowns of the stitches on account of the great resistance offered by the work to the tool and the tendency of the material to return to its original position as soon as the tool is withdrawn from the work. The stitch separating and indenting operation is usually performed automatically by means of a machine provided with suitable mechanism for actuating the tool to locate and indent the stitch intervals and shape the crowns of the stitches. When the machine is provided with a tool having a shallow groove, difficulty is experienced in causing the tool to properly locate the stitch intervals when the stitches vary in length. Furthermore, in many stitch-separating machines the tool is utilized to feed the work, and when a tool provided with a shallow groove is used the tool is not always

forced into the work a sufficient distance to enable it to feed the work with certainty.

The object of the present invention is to provide an improved method particularly adapted to be performed automatically by a stitch separating and indenting machine, but also capable of being performed by hand, by which the stitch intervals of a finished seam can be indented and the crowns of the stitches permanently shaped in a certain and reliable manner.

With the above object in view the present invention contemplates first compressing the material between the stitches to form stitch-separating indentations and thereafter compressing the material between the indentations to shape the crowns of the separated stitches. By first indenting the intervals between the stitches the indentations can be formed accurately in the stitch intervals whether the stitches are of uniform or of varying length, this operation being equally capable of being performed either automatically or by a hand-operated tool. The subsequent operation of shaping the crowns of the stitches merely necessitates compressing the material between the indentations, so that the crowns of the stitches can be readily compressed into the desired shape either by an automatically-actuated or a hand-operated tool. Since the stitches are first separated by means of indentations which accurately coincide with the stitch intervals, any injury to the stitches is avoided and the crowns of the indented stitches present a uniform appearance in the completed shoe. Preferably the crowns of the stitches are partially shaped simultaneously with the formation of the stitch-separating indentations, as thereby the crown of each stitch is compressed twice and is more readily brought to its final shape and the tendency of the material to return to its original position is more effectually overcome.

The present invention will be clearly understood from an inspection of the accompanying drawings, in which—

Figure 1 is a diagrammatic view illustrating the appearance of the seam before the stitches thereof are indented. Fig. 2 is a similar view illustrating the appearance of the



seam after the stitch intervals have been indented and the crowns of the stitches partially shaped. Fig. 3 is a similar view illustrating the appearance of the seam after the final shape has been imparted to the crowns of the stitches, and Figs. 4 and 5 are diagrammatic views illustrating an indenting-tool by which the steps of the method constituting the present invention can be carried out and the manner in which the tool acts upon the seam.

In accordance with the present invention the stitches 1 of the seam (illustrated in Fig. 1) are separated by compressing the material at the stitch intervals 2 to form indentations 3, as indicated in Fig. 2, the crowns of the stitches being preferably partially shaped simultaneously with the formation of the stitch-separating indentations, as also indicated in Fig. 2. The material between the stitch-separating indentations is then compressed to bring the crowns of the stitches into their final shape, as indicated at 4 in Fig. 3. If desired, all or any number of the stitches may be separated by forming indentations in the stitch intervals before the crowns of any of the stitches are compressed to bring them into their final shape. It is deemed preferable, however, to perform the operations of separating the stitches and shaping the crowns simultaneously, an indentation being formed in the interval between two stitches while the crown of a separated stitch is being completed, and in Figs. 4 and 5 a tool is illustrated by which these operations can be performed in this manner. The tool illustrated is provided with two grooves 5 and 6, arranged to act upon the crowns of adjacent stitches and with a stitch separating and indenting blade 7 at one side of the groove 6, the blade being formed by one side wall of the groove 6 and by an inclined surface on the side of the tool. The adjacent side walls of the grooves 5 and 6 form a blade 8 between the grooves, and a blade 9 is formed at the side of the groove 5 by one side wall of the groove and an inclined surface on the side of the tool. The side walls of the groove 5 are arranged at an angle of about ninety degrees with relation to each other, and the side walls of the groove 6 are arranged at a lesser angle with relation to each other, the grooves being of substantially the same width but of different depths. In the operation of the tool on the seam the blade 7 is first located in a stitch interval, as

indicated in Fig. 4, the other portions of the tool being out of contact with the work. The tool is then depressed, as indicated in Fig. 5, the blade 7 forming the indentation between two stitches, the groove 6 partially shaping the crown of a stitch and the groove 5 completing the crown of the separated stitch, which was partially shaped at the preceding descent of the tool. The blades 8 and 9 enter the indentations previously made by the blade 7 and act to compress the material in the bottoms of the grooves in case it has returned toward its original position.

It will be evident that by the use of the tool illustrated in Figs. 4 and 5 the method which constitutes the present invention can be performed automatically by a stitch separating and indenting machine, the blade 7 being automatically located in the stitch intervals whether the stitches are of uniform or of varying length and the crown of each stitch being acted upon twice by the tool to bring it into its final shape.

While it is preferred to use a tool provided with two grooves in practicing the method, as thereby the different steps can be performed simultaneously and, if desired, automatically, it is to be understood that other forms of tools may be used and that the operations may be performed successively, either automatically or by hand.

The invention having been thus described, what is claimed is—

1. The method of separating and indenting the stitches of a finished seam which consists in compressing the material between the stitches to form stitch-separating indentations and then compressing the material between said indentations to shape the crowns of the separated stitches, substantially as described.

2. The method of separating and indenting the stitches of a finished seam which consists in compressing the material to form stitch-separating indentations in the stitch intervals and partially shape the crowns of the stitches and then compressing the material between said indentations to complete the crowns of the separated stitches, substantially as described.

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

JOHN B. HADAWAY.

Witnesses:

FRED O. FISH,  
HORACE VAN EVEREN.