F. N. LA CHAPELLE.

NEEDLE.

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1,269,094. Patented June 11, 1918.

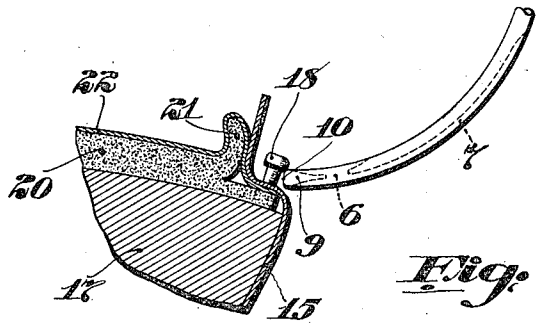


Fig. 3.

Fig. 1.

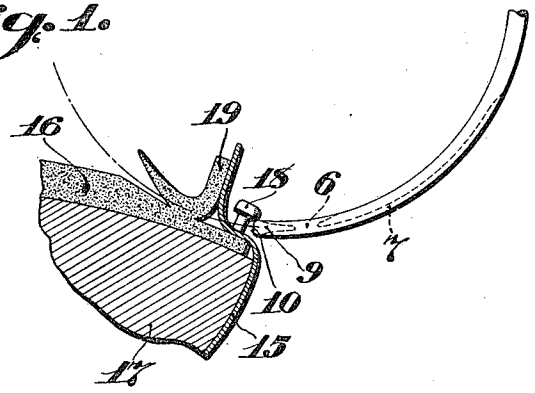
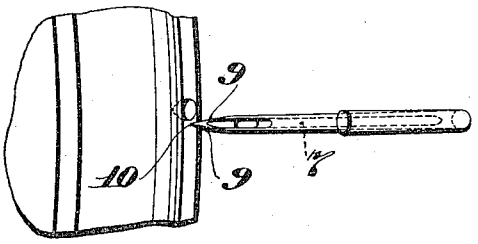


Fig. 2.



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UNITED STATES PATENT OFFICE.

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NEEDLE.

1,269,094. Specification of Letters Patent. Patented June 11, 1918.

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To all whom it may concern:

Be it known that I, FRED N. LA CHAPELLE, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Needles; 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 needles and more particularly to curved needles employed in connection with the sewing of boots and shoes.

The present type of needle is more particularly useful when employed in connection with a thread fastening machine of the type disclosed in the patent to La Chapelle, No. 1,185,108, dated May 30, 1916. It is essential in this type of machine that the needle shall be capable of penetrating the work and that there shall be no distortion of the needle either before or during the penetration of the work which would cause the needle to deviate from the true arc of movement.

The object of the present invention is to provide a curved needle of an improved form which is capable of penetrating the work without substantial distortion in the plane of curvature of the needle. With this object in view the features of the invention consist in the several features of construction hereinafter set forth and claimed, the advantages of which will be obvious to those skilled in the art from the following description.

In the accompanying drawings, Figure 1 represents a side elevation of the improved form of needle shown in operative relation to a portion of a lasted shoe; Fig. 2 is a plan view of the needle and work illustrated in Fig. 1; and Fig. 3 is a view similar to Fig. 1 illustrating the needle in connection with a lasted shoe employing a different type of insole.

In making the thread fastening disclosed in the patent hereinbefore referred to it is essential that the curved needle shall not deviate from a certain fixed arc of movement and as no awl is employed for previously piercing the work, it is furthermore essential that the needle shall be capable of penetrating the work. In the illustrated embodiment of the invention a curved needle of circular cross section is provided with an eye 6 adjacent the working end. The thread passes through the eye and is intended to lie in a groove 7 formed upon the under side of the needle. The working end of the needle is provided with oppositely inclined faces 9 which extend from approximately opposite the end of the eye to a chisel edge 10 lying in the plane of curvature of the needle. The chisel edge extends in a substantially radial direction with respect to the curvature of the needle and throughout substantially the entire width of the needle, as shown clearly in the drawings. In the illustrated embodiment of the invention the opposite ends of the chisel edge are slightly rounded or beveled to cause the edge to merge smoothly with the adjacent surface of the needle. From an inspection of Fig. 1 it will be noted that the needle is shown in connection with a lasted shoe comprising an upper 15 and insole 20 assembled upon a last 17 and secured by a metallic fastener 18 in the usual manner. The needle follows the path indicated in dot and dash lines in the drawings and passes through the upper and insole lip 19 adjacent the base. It frequently happens that when inserting a thread fastening with this type of machine the shoe is positioned with the lasting tack located substantially in the path of movement of the needle, and it will be obvious to those skilled in the art that when this occurs it is desirable that the needle shall pass by the tack without injury to the needle or without causing the needle to deviate from the true arc of movement. Furthermore, it is desirable that the engagement of the work by the needle shall not create any tendency upon the part of the needle to deviate from the true path of movement. With the present construction, owing to the formation of the working end with a chisel edge lying in the plane of the needle and extending throughout substantially the entire width of the needle, the needle is enabled to pass by lasting tacks which may be engaged thereby and penetrate the work without causing any substantial distortion of the needle in the plane

of curvature. It will be obvious that when the needle engages with a lasting tack it immediately tends to move slightly in a lateral direction without substantially dulling the chisel edge.

The present type of needle is especially useful in connection with the type of lasted shoe shown in Fig. 3, in which the upper 15 is to be secured to an insole 20 having a lip 21 reinforced in the usual manner by a sheet of canvas 22. In this type of shoe the needle is enabled to readily penetrate the comparatively thin reinforced lip of the insole, the chisel edge of the needle separating the strands of the canvas and forcing its way through the lip.

While it is preferred to employ the specific construction and arrangement of parts shown and described, it will be understood that this construction and arrangement is not essential except so far as specified in the claims, and may be changed or modified without departing from the broader features of the invention.

The invention having been described, what is claimed is:

1. A curved eye needle having a chisel edge lying in the plane of the needle and extending substantially throughout the entire width of the needle in a direction substantially radial with respect to the arc of the curvature of the needle.

2. A curved eye needle having a chisel edge lying in the plane of the needle and extending substantially throughout the entire width of the needle in a direction substantially radial with respect to the arc of the curvature of the needle and having oppositely inclined faces to form a tapered end extending from approximately opposite one end of the needle eye and terminating in the chisel edge.

FRED N. LA CHAPELLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."