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1,592,535

H. D. MORTON

NEEDLE AND METHOD OF MAKING SAME

Filed Dec. 24, 1925

Fig. 1.



Fig. 2.

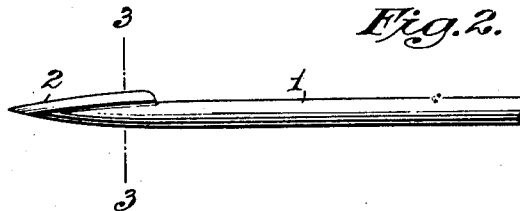


Fig. 3.

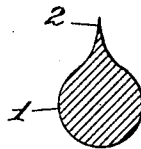


Fig. 4.

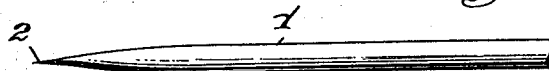
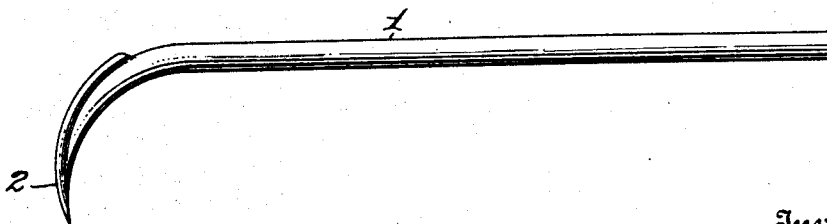


Fig. 5.



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NEEDLE AND METHOD OF MAKING SAME.

Application filed December 24, 1925. Serial No. 77,484.

The following is a description of a needle and method of making the same embodying my invention in the form and manner at present preferred by me; but it will be understood that various modifications and changes may be made without departing from the spirit of my invention and without exceeding the scope of my claims.

In my application Serial No. 72,704, filed December 2, 1925, I disclosed a curved needle, suitable for use in the art or surgery, and provided with a cutting edge extending along a portion of the convex side of such needle and terminating short of the point thereof. My present invention also relates to curved surgical needles of the cutting type, but, for some classes of work possesses certain advantages over the needle disclosed in my prior application above referred to.

In surgical operations, much effort is required to force a needle of the usual type through certain tissues, such as the skin upon some portions of the body, the scalp and the tendons. In my previous application I show a curved or partially curved needle provided with a fin comprising a cutting blade projecting outwardly from the convex side of the curve, but not extending to the extreme tip or point of the needle—such point being of the usual conical form. In passing a needle of this type through particularly resistant tissue, the conical portion which is below the cutting blade and which terminates in the extreme point of the needle, merely displaces and compresses the tissue ahead of the cutting fin, which fin forms an opening for the passage of the needle body and suture. In my present invention the convex side is also provided with a cutting fin, which, however, extends beyond the end of the needle body, so that the extreme point of the needle consists of a thin and very sharp edge. This construction possesses the advantage over my prior invention that, regardless of the resistant nature of the tissue through which the needle and suture are to be passed, the cutting action starts immediately the needle point enters such tissue.

My invention will best be understood by

reference to the accompanying drawings, in which I have illustrated the preferred form of my invention and methods of making the same, and in which Fig. 1 shows a portion of an annealed needle blank; Fig. 2 shows an end of such blank after there has been formed therein, as by pressing, stamping or swaging, a tapered body portion projecting from and extending beyond the end of which is a fin adapted to be ground or otherwise finished to a keen cutting edge; Fig. 3 is an enlarged cross-sectional view on the line 3—3 of Fig. 2; Fig. 4 is a view at right angles to the view of Fig. 2, looking at the lower side of said Fig. 2; Fig. 5 is a view of a half-curved needle embodying my invention.

Referring to the drawings: 1 indicates the body of a needle, which may have formed in its shank end an eye or other suture-carrying means (not shown). 2 is a fin formed along the convex side of the needle, either before or after the needle is curved, and while it is still in its annealed state. After the needle has been formed, it is hardened, tempered and polished, and the fin is ground to a keen cutting edge, preferably by being brought into contact with two wheels of small diameter and rotating at high speed.

I have found that a needle made in accordance with my present invention perforates tissue much more readily than a needle having the ordinary conical point—very little effort being required to pass it through even very tough tissue which is highly resistant to the passage of a needle having another type of point. It will be understood that my present invention is also applicable to needles which are completely curved, as well as to those which are only partially curved.

What I claim as new and desire to secure by Letters Patent of the United States is:—

1. A curved needle provided with a fin radially projecting from its convex side and terminating in a cutting point for said needle.

2. A curved needle provided on its convex side with a radially projecting arcuate fin forming a cutting blade terminating in a point for said needle.

3. A curved needle provided with a cutting fin projecting from its convex side and forming the point of such needle.

4. A curved needle provided with a cutting blade projecting from its convex side and extending beyond the end of the body of the needle to form the point thereof.

5. A needle some portion of which defines a curve and a fin on the convex side of said

curve, the edges of said fin extending beyond the body of the needle and forming two sides of a triangular cutting point therefor. 10

6. A needle some portion of which defines a curve having a cutting edge on its convex side, said edge terminating in a point for said needle. 15

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