(No Model.)

P. A. & J. COUPAL.

CUTTING NEEDLE.

No. 353,250. Patented Nov. 23, 1886.

Fig. 1.

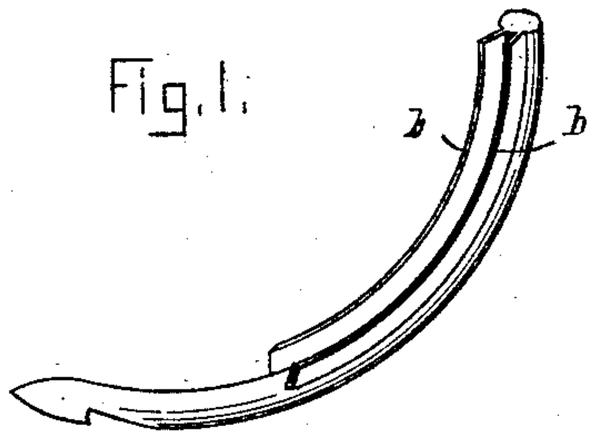


Fig. 2

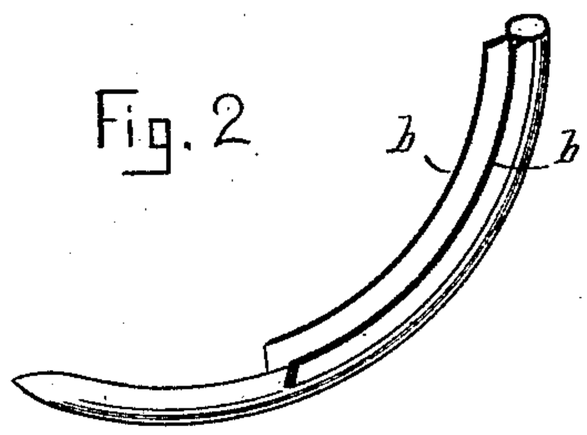


Fig 3

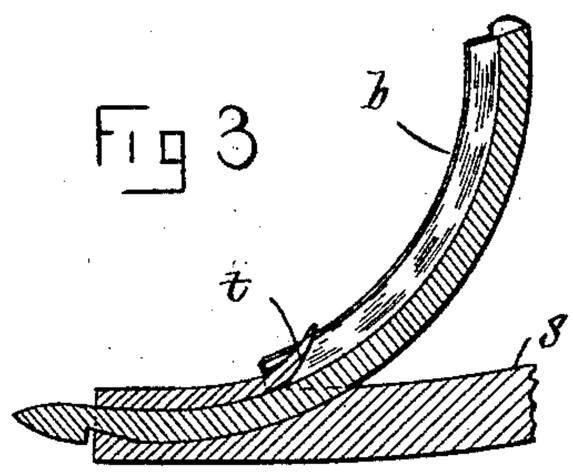
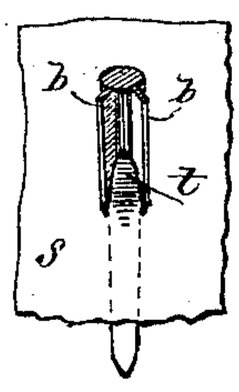


Fig. 4

Fig 5



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UNITED STATES PATENT OFFICE.

PETER A. COUPAL, OF BOSTON, AND JOSEPH COUPAL, OF QUINCY, MASS.

CUTTING-NEEDLE.

SPECIFICATION forming part of Letters Patent No. 353,250, dated November 23, 1886.

Application filed November 5, 1885. Serial No. 181,895. (No model.)

To all whom it may concern:

Be it known that we, PETER A. COUPAL and JOSEPH COUPAL, of Boston and Quincy, respectively, in the counties of Suffolk and Norfolk, respectively, and State of Massachusetts, have invented certain new and useful Improvements in Cutting Needles or Awls, of which the following is a specification.

This invention consists in a curved needle, or its equivalent, an awl, provided with knives to make incisions in a surface penetrated by the needle, and thereby form tongues on the said surface, said tongues being formed on the inner surface of the sole of a turned shoe to engage stitches or loops of thread drawn through the outer edge of the sole by a needle, as shown in Letters Patent of the United States, No. 242,328, granted to T. K. Keith, May 31, 1881.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a perspective view of a needle embodying our invention. Fig. 2 represents a similar view of an awl. Fig. 3 represents a transverse section of the shank of either the needle or awl, taken through the cutting-blades. Fig. 4 represents a longitudinal section of the needle in the position it occupies when it has penetrated the sole, and its cutters have formed a tongue on the inner surface thereof. Fig. 5 represents a top view of a portion of the sole, showing the needle in the same position as shown in Fig. 4.

The same reference-letters indicate the same parts in all the figures.

In carrying out our invention we take a curved needle of the same general form that is used in sole-sewing machines, the shank of the needle being the arc of a circle, and capable of oscillating in the direction of its length. On the concave side of the needle we form two wings or blades, *b b*, said wings standing radially in cross-section, as shown in Fig. 3. The ends of the wings next to the point of the needle are sharpened to constitute cutting-edges, said edges being located so far back from the point that the point may pass through the sole and the knives following the point may partly enter one side of the sole without passing through it.

This needle is used with a machine of substantially the construction described in Letters Patent of the United States granted to us December 15, 1885, said machine also showing loop-forming devices co-operating with the needle, and an awl which penetrates the work in advance of the needle.

Our invention is not limited, however, to forming the cutting-blades on the needle, as said blades may be formed upon the awl without departing from the spirit of our invention.

Fig. 2 shows an awl having cutting-blades correspondingly arranged to those on the needle shown in Fig. 1.

The forward movement of the needle or awl causes the knives to make parallel incisions in the surface of the sole *s*, as shown in Figs. 4 and 5, and thus form tongues *t*, which are engaged with the loops of the thread, as described in said Keith patent and in our above-named patent.

We claim as our invention—

A curved needle or awl having knives extending longitudinally thereof, presenting their cutting-edges toward the point of the needle or awl, the knives being substantially at right angles with each other in cross-section, whereby they are adapted to form a V-shaped cut in an object penetrated by the needle or awl, as set forth.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 30th day of October, 1885.

PETER A. COUPAL.
JOSEPH COUPAL.

Witnesses:
C. F. BROWN,
H. BROWN.