(No Model.)

J. E. BERTRAND.

PUNCTURING IMPLEMENT FOR SEWING MACHINES.

No. 444,419. Patented Jan. 13, 1891.

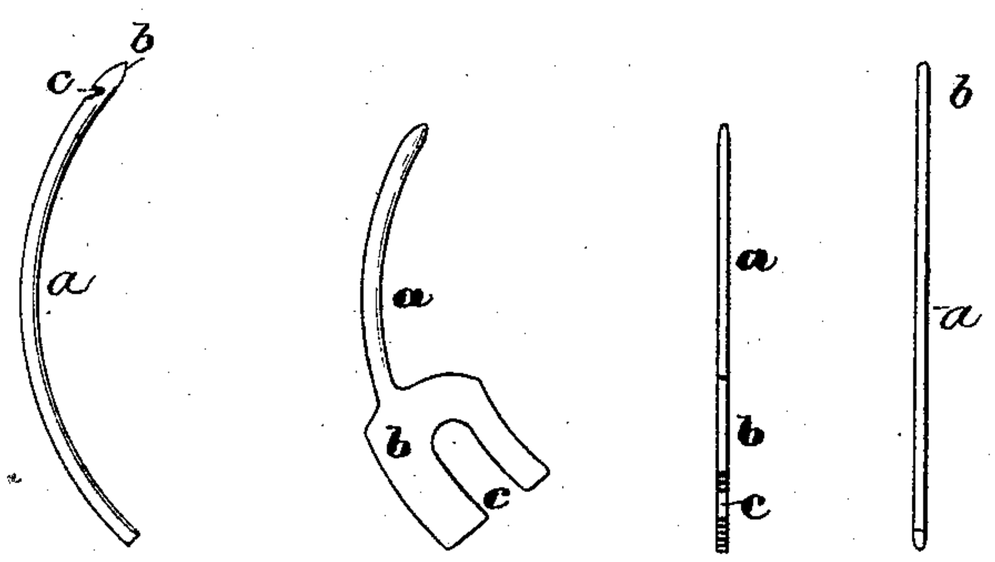

Fig. 4. Fig. 1. Fig. 2. Fig. 5.

Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH ELI BERTRAND, OF BOSTON, ASSIGNOR OF ONE-HALF TO MELLEN BRAY, OF NEWTON, MASSACHUSETTS.

PUNCTURING IMPLEMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 444,419, dated January 13, 1891.

Original application filed September 17, 1888, Serial No. 285,575. Divided and this application filed January 30, 1889. Serial No. 298,040. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ELI BERTRAND, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Sewing-Machine Puncturing Implements, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to puncturing implements for sewing-machines, as needles and awls, and is a division of another application of mine filed September 17, 1888, No. 285,575; and it consists in a puncturing implement for sewing-machines having its working body curved to an arc of a circle and having a cross-section of a greater diameter in the direction of the radius of its curve than at right angles thereto, and of uniform size throughout its working body above its puncturing point, and having both its outer and inner curved edges rounded transversely to the arc of a circle or ellipse.

It further consists in a sewing-machine awl having its working body curved to an arc of a circle and made oval or elliptical in cross-section throughout with its smallest diameter at right angles to the radius of its curve, and provided at its butt-end with a broad flat plate having cut therein an open-ended slot for the passage of the binding-bolt for the securing of said awl in position.

Figure 1 of the drawings is a side elevation of a sewing-machine awl, illustrating my invention. Fig. 2 is an edge view of the same. Fig. 3 is a transverse section through the working body of the awl or needle; and Figs. 4 and 5 are respectively a side elevation and an edge view of a barbed sewing-machine needle, which also illustrates my invention.

In the drawings, *a* is the working body of the awl, curved to an arc of a circle, as shown in Fig. 1, and made oval or elliptical in cross-section, with its smallest diameter at right angles to the radius of its curve, and of a uniform size from its shank to the commencement of the taper of its point, as shown in Fig. 3.

In Figs. 4 and 5, *i* is a sewing-machine needle, also curved to the arc of a circle, and having a cross-section of a greater diameter in the direction of the radius of its curve than at right angles thereto, and of uniform size throughout its working body above its puncturing point, and its outer and inner curved edges rounded transverse to the arc of a circle or ellipse. The butt-end or haft of said awl is in the form of a broad flat plate *b*, having formed therein the open-ended slot *c* for the passage of the clamping-screw which secures it and the needle which works in connection with it in position on the needle and awl-carrying arm, as described in my before-cited application. In said other application said haft or plate is described as of a thickness equal to the thickness of the body of the awl, plus the desired distance between the awl and needle; but in this case I show the plate or haft *b* of the same thickness as the working body of the awl, and intend to use a separate plate of the desired thickness between the needle and awl, which supplementary plate may be changed from one of greater or less thickness when it is desired to vary the length of the stitch to be formed.

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

1. A sewing-machine puncturing implement curved to the arc of a circle and having a cross-section of a greater diameter in the direction of the radius of its curve than at right angles thereto, and of uniform size throughout its working body, and having both its outer and inner curved edges rounded transversely to the arc of a circle or ellipse, substantially as shown and described.

2. A sewing-machine awl having its working body curved to the arc of a circle and a cross-section throughout said working body of greater diameter in the direction of the radius of its curve than in the direction at right angles thereto, and having both the outer and inner curved edges rounded transversely to the arc of a circle or ellipse, substantially as described.

3. A sewing-machine awl having its working body curved to an arc of a circle and made oval or elliptical in cross-section, with

its smallest diameter at right angles to the radius of its curve, and provided at its butt-end with a broad flat plate having formed therein an open-ended slot to receive the clamping-screw for securing it in position.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 26th day of January, A. D. 1889.

JOSEPH ELI BERTRAND.

Witnesses:
N. C. LOMBARD,
WALTER E. LOMBARD.