(No Model.)

G. W. LASCELL.

SEWING MACHINE NEEDLE.

No. 507,548. Patented Oct. 31, 1893.

FIG. I

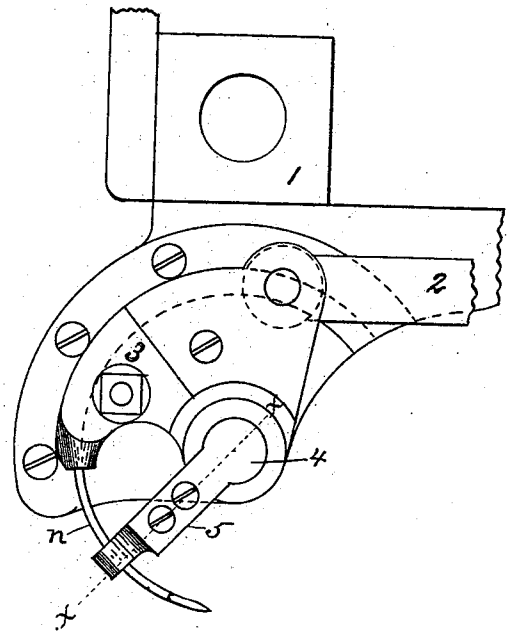


FIG. II.

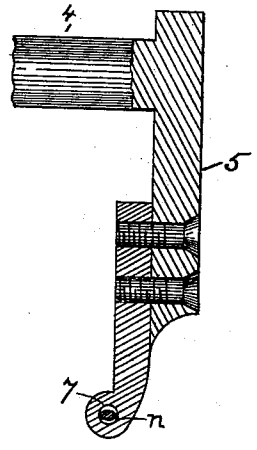
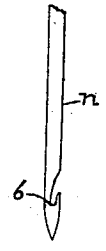


FIG. III.



WITNESSES.

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GEORGE W. LASCELL, OF LYNN, MASSACHUSETTS.

SEWING-MACHINE NEEDLE.

SPECIFICATION forming part of Letters Patent No. 507,548, dated October 31, 1893.

Application filed January 14, 1893. Serial No. 458,422. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. LASCELL, a citizen of the United States, and a resident of Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented a new and useful Improvement in Sewing-Machine Needles, of which the following is a specification.

My invention relates to curved sewing machine needles, and more particularly to those needles of the above class used in boot and shoe sewing machinery, and consists of a curved sewing machine needle of oval form in cross section between the eye and a point toward the heel, including substantially that portion of the needle working in the material, the flattened poles of the oval sections forming the back and front of the needle.

The object of my invention is to furnish an improvement in needles of the kind above described that will increase their strength, and render their operation easier and more effective.

My invention is illustrated by the accompanying drawings, in which—

Figure I is a side view of my improved needle and a needle guide in connection with immediately associated parts of a sewing machine. Fig. II is a sectional view taken on line X X, Fig. I. Fig. III is a front view of lower portion of my improved needle.

Similar letters and figures of reference refer to similar parts in the several views.

In the drawings, *n* represents my improved needle.

3 designates the needle holder adapted to be rocked on the shaft or stud 4, by means of reciprocating bar 2.

1 designates a portion of the frame of the machine for supporting operative parts.

5 represents the needle guide, and 7 the aperture therein through which the needle passes.

All the above parts except the needle *n* may be of the usual construction.

My improved needle *n* is constructed of oval form in cross section from the eye or hook 6 to a point toward the heel, including substantially that portion of the needle working in the material.

As shown in Fig. II, the flattened poles of the oval form the back and front of the needle and the longer axis of the oval section is perpendicular to the plane of operation of the needle. The hook or barb of the needle is formed on the side.

In a curved sewing machine needle as commonly constructed, where the needle begins to taper to form the point a shoulder is formed which extends around the needle. This shoulder at the front and back of the needle, has been found to be objectionable, rendering the work hard to hold up to the machine, and the stock apt to bulge out on lower surface, also rendering the needle apt to glance and not operate on proper lines. Needles circular in cross section have also been found to have a tendency to turn or vibrate in the work.

Effort has been made to overcome the above cited objections by chamfering or milling off the back of a needle circular in cross section forming a flat surface and doing away with a portion of the shoulder at the back of the needle. Circular sectional needles have also been chamfered or milled off in front, removing a portion of shoulder in front. It will be noted, however, that both of the above devices reduce the area of the cross section of the needle in its working parts, and in the use of such needle, the thread must be drawn through a smaller puncture than in the use of circular needles of the same size. This causes the thread to draw with greater friction, rendering it apt to be frayed or broken.

By my novel construction, I reduce the shoulder both at back and front without reducing area of cross section of needle, as compared to a circular sectional needle of the same size, and the oval shape of the needle tends to steady it in the work, and prevent vibration; also by forming needle oval in cross section in its working parts, I obtain a flattened or elongated puncture, and the parts of a loop of thread drawn through the same will lie side by side and form a smooth stitch, and further, by forming the needle oval in form in cross sections, the flattened poles of the oval forming the back and front, and by placing the barb or hook upon the side, I take advantage of the material along the longer axis of the oval section to form a

larger hook than can be formed in needles of corresponding sizes and other forms of cross section, so enabling the needle to carry a larger thread, retaining the same strength, or to form a hook of same size and greatly add to the strength of the needle.

Having thus described the construction and nature of my invention, I claim as novel and desire to secure by Letters Patent—

A curved sewing machine needle of oval form in cross section between the eye and a point toward the heel, including substantially that portion of the needle working in the material, the flattened poles of the oval sections forming the back and front of the needle substantially as described.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, this 10th day of January, A. D. 1893.

GEORGE W. LASCELL.

Witnesses:
WINFIELD S. PARTRIDGE,
EDWARD TALBOT.