

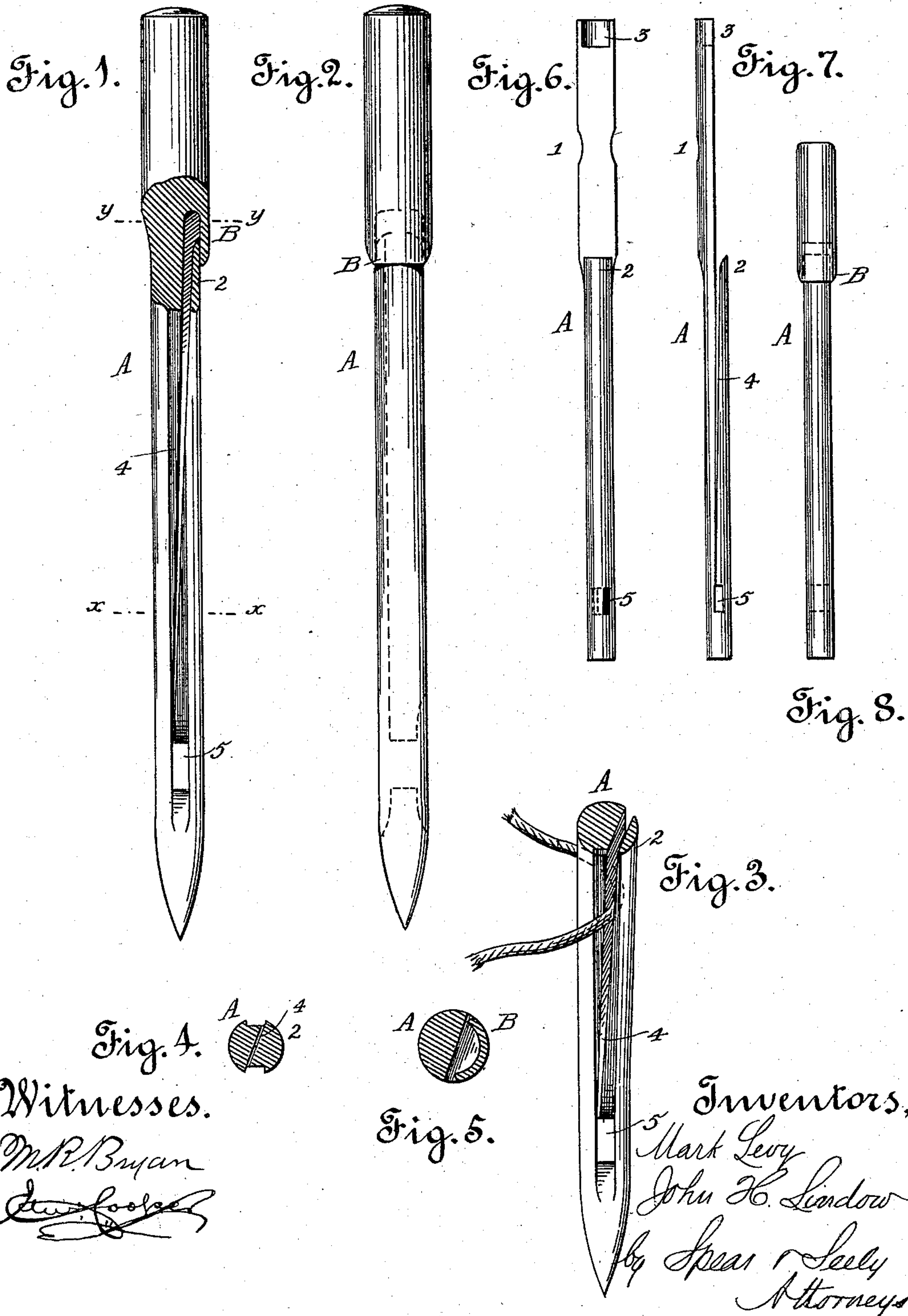
(No Model.)

M. LEVY & J. H. LINDOW.

SEWING MACHINE NEEDLE AND PROCESS OF MAKING SAME.

No. 540,395.

Patented June 4, 1895.



Witnesses.
Mr. R. Bryan
[Signature]

Fig. 5.

Inventors,
Mark Levy
John H. Lindow
by Spear & Seely
Attorneys

UNITED STATES PATENT OFFICE.

MARK LEVY AND JOHN H. LINDOW, OF SAN FRANCISCO, CALIFORNIA.

SEWING-MACHINE NEEDLE AND PROCESS OF MAKING SAME.

SPECIFICATION forming part of Letters Patent No. 540,395, dated June 4, 1895.

Application filed January 6, 1894. Serial No. 495,920. (No model.)

To all whom it may concern:

Be it known that we, MARK LEVY and JOHN H. LINDOW, citizens of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Sewing-Machine Needles and Process of Making the Same; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention relates to sewing machine needles, and our object is to produce a needle which will require no trouble in threading, while at the same time the thread is securely held so that it can practically be removed only by pulling it out through the eye.

The invention consists partly in the novel method of making the needle and partly in the construction of the needle itself.

Generally speaking, our improved needle consists of a bar slitted longitudinally, the slit connecting with the eye at one end, and open at the other, so that the thread can enter the slit and thus be guided to the eye. There are also certain details of construction, such as the peculiar relative positions of the eye and the slit and the provision of a guard for covering the open end of the slit.

In the accompanying drawings, Figure 1 is an elevation of our needle partly broken away. Fig. 2 is an elevation of Fig. 1 turned half around. Fig. 3 is an elevation showing the needle while being threaded. Fig. 4 is a section on line *x x*. Fig. 5 is a section on line *y y*. Figs. 6, 7, and 8 are elevations illustrating the needle at different stages of its formation.

A represents a bar or pin of steel originally cylindrical but formed by suitable machinery into a partly cylindrical and partly flat blank, the flat portion being decreased in width and thickness at the bending point 1. The bar is then sawed or split from one end nearly to the other and the upper part of one of the arms thus formed removed, leaving a spring tongue (Fig. 7). The upper end of the main bar is concaved as shown at 3, and then bent down as shown at Fig. 8, so that the concave overlaps the end of the tongue 2, forming a guard or shield B. The slit 4 intersects the eye 5 of the needle, which is formed at an angle of, say twenty-five degrees to the horizontal direc-

tion of the slit as shown in Figs 3 and 4, where the eye is represented by dotted lines. When the end of the bar has been pointed a needle has been formed of the general shape and construction shown in Figs 1 and 2, consisting of a head adapted to engage with or be secured to the needle bar of the machine, a longitudinal slit extending through the shank of the needle and intersecting the open eye at an angle, and a spring tongue forming an integral part of the shank and covered and concealed by the concave guard or shield.

Now by using the shank of the needle as a guide, the thread having its end turned upon itself, can be slipped under the guard and over the end of the tongue into the slit; thence it is pulled down through the slit and into the eye; and as the latter is at an angle to the slit the thread when in position lies also at an angle to the slit, the adjacent ends of which form shoulders which prevent the thread from entering the slit again. To thread the needle in this way is a matter of no difficulty whatever, and can be done in the dark if desired, since the thread is always perfectly guided to its final position in the eye.

The drawings of course greatly exaggerate the size of the needle in order to make the construction clear. It is preferred to form the slit at an angle from the vertical line of the needle so as to leave the main bar and the spring tongue near their upper ends in the respective proportions of about two-thirds and one-third of the cross section of the shank; the advantage being that greater strength is thereby given the bar and more elasticity to the tongue. These proportions may however be changed to suit different kinds and sizes of needles.

What we claim is—

1. The process of making a needle, which consists in forming a bar into a slitted blank having the needle eye near one end and a spring tongue, and bending the end of the bar opposite to the eye back upon itself to overlap the tongue and to form the attaching head and a guard for the tongue.

2. A blank for a needle, having a transverse eye near one end, and a concave depression at the other, and a slit intersecting the eye.

3. A blank for a needle, having a trans-

verse eye and a concave depression near one end and a diagonal slit intersecting the eye, substantially as set forth.

4. A needle slitted longitudinally and having an eye intersecting said slit, said eye and slit extending through the needle from side to side and on different radii whereby the upper wall of the eye is formed by triangular shoulders with the inclined slit between them, substantially as described.

5. A needle slitted longitudinally and having an eye intersecting said slit, said eye and slot extending from side to side of the needle

and on different radii and said slit being also inclined to the axis of the needle whereby a spring tongue is formed tapering upwardly and the main body portion tapers downwardly to the eye, substantially as described.

In testimony whereof we have affixed our signatures, in presence of two witnesses, this 29th day of December, 1893.

MARK LEVY.

JOHN H. LINDOW.

Witnesses:

L. W. SEELY,

EWD. COOPER.