Nettleton & Lawton,

Scouring Eyes of Needles.

No. 109,040. Patented Nov. 8. 1870.

Fig. 1.

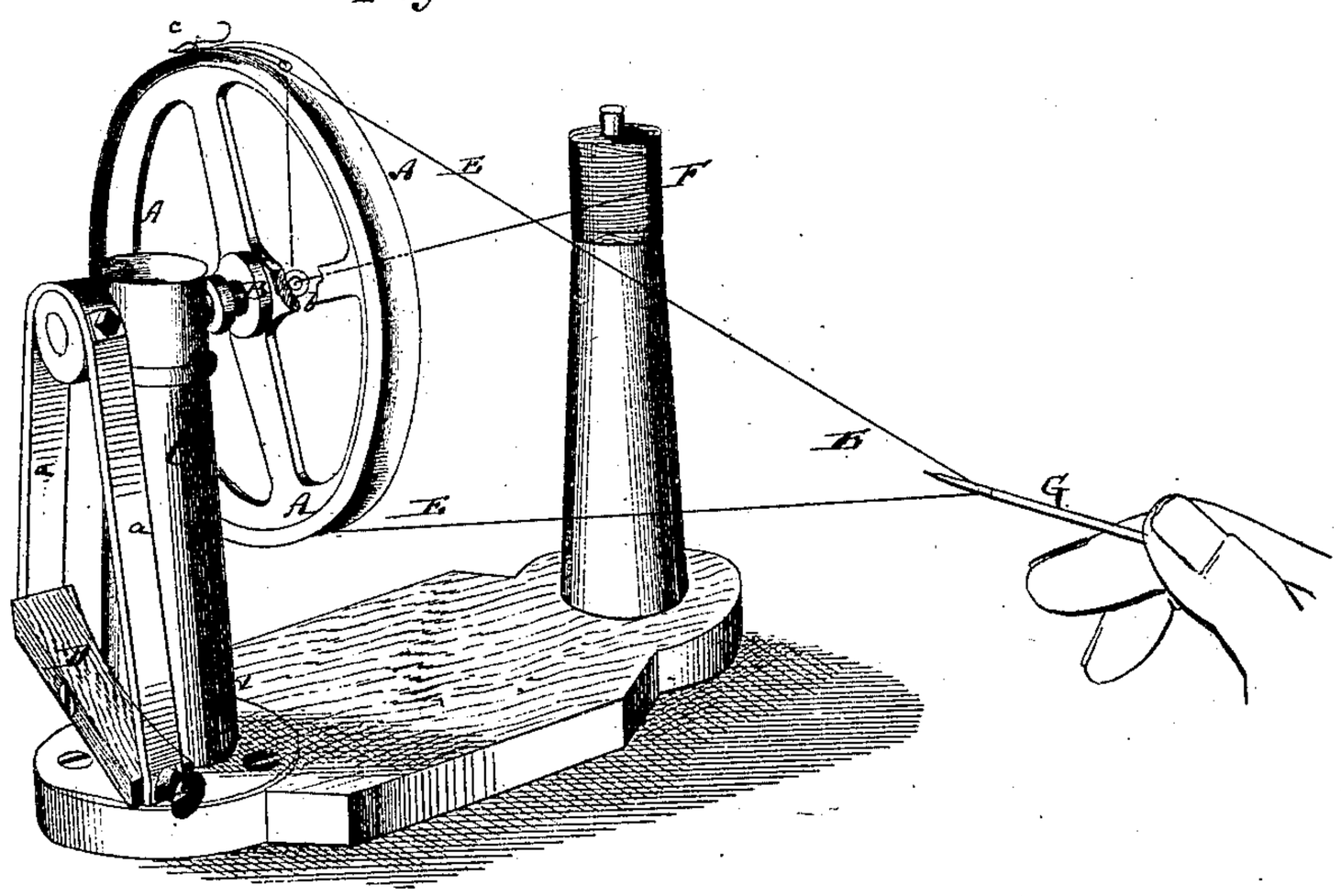
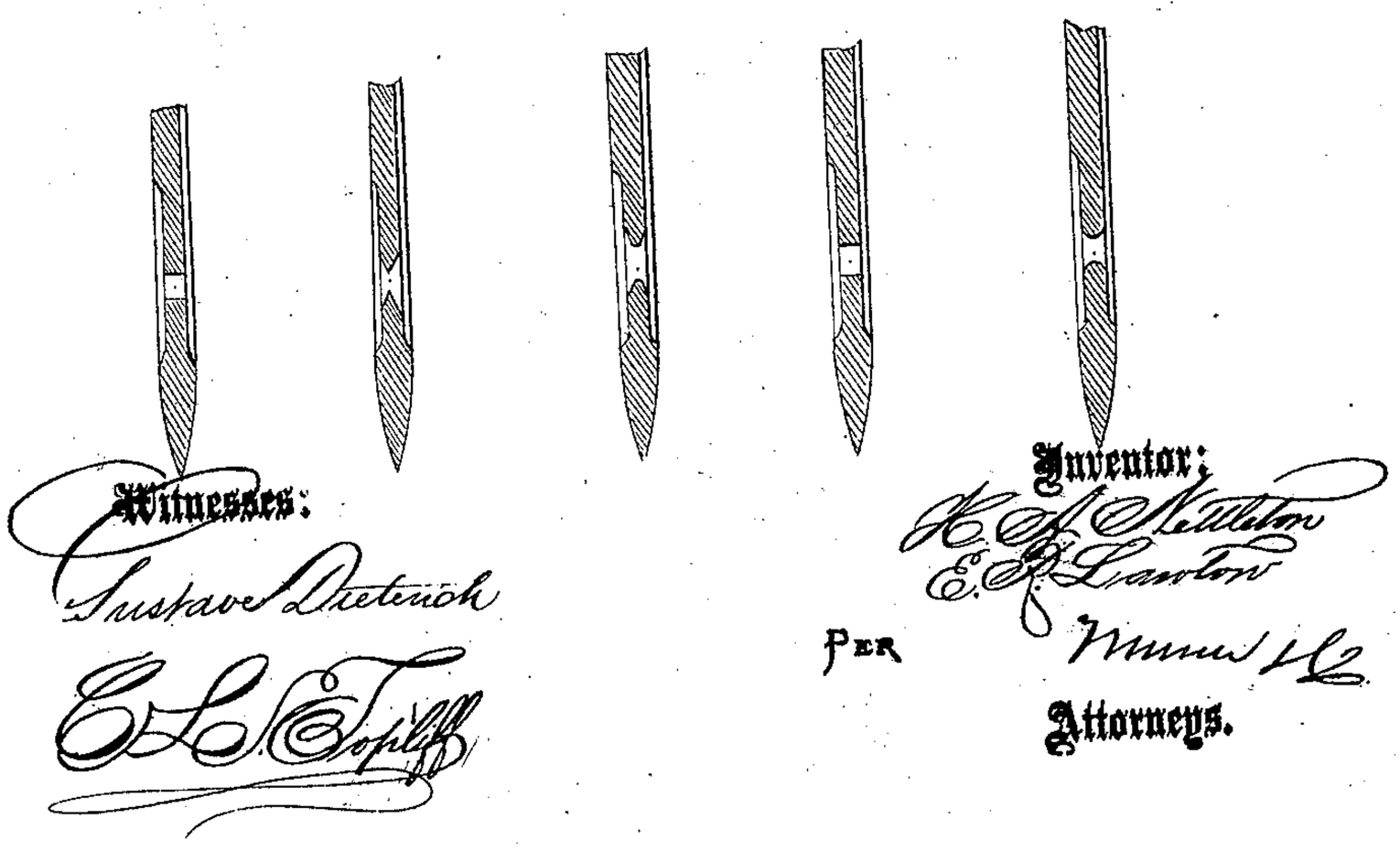


Fig. 2. Fig. 3. Fig. 4. Fig. 5. Fig. 6.



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UNITED STATES PATENT OFFICE.

HORACE A. NETTLETON AND EDWIN R. LAWTON, OF WEST CHESHIRE, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR SCOURING THE EYES OF NEEDLES.

Specification forming part of Letters Patent No. **109,040,** dated November 8, 1870.

To all whom it may concern:

Be it known that we, HORACE A. NETTLETON and EDWIN R. LAWTON, of West Cheshire, in the county of New Haven and State of Connecticut, have invented a new and Improved Machine for Scouring the Eyes of Needles; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a perspective view of our improved scouring-machine. Figs. 2, 3, 4, 5, and 6 are detail sectional views, on an enlarged scale, of the needles, showing the different processes which they undergo to have their eyes finished.

Similar letters of reference indicate corresponding parts.

This invention has for its object to facilitate the scouring or "threading" of the eyes of sewing-machine and other sewing needles; and consists, chiefly, in the application of a movable scouring-thread, whereby the desired effect is rapidly produced.

The eyes of needles were heretofore scoured by moving the needles over a stretched but stationary thread which is covered with emery or other equivalent material. This process required considerable time, as only muscular power could be used, the same being applied directly to the needles. With our improved mechanism the thread is moved with considerably greater force than the needle, and the eyes are consequently much more rapidly finished.

A in the drawing represents a wheel or disk, mounted upon a shaft, B, which hangs in a frame, C. The shaft is, by a belt, *a*, connected with a treadle, D, or other mechanism, whereby it receives oscillating motion. E is the scouring-thread. It is, from a bobbin, F, drawn through an emery-box, or otherwise covered with scouring material, and is thence fitted through an eye, *b*, at the end of the shaft B, and through an opening in the periphery of the wheel A. The thread is wound around part of the periphery of the wheel, and is then fitted through the eye of the needle G, and its end finally secured to a hook, *c*, that projects from the edge of the wheel. The thread appears thus to straddle the wheel A. As the latter is oscillated the thread will be drawn through the eye of the needle G with rapidity, and will scour or "thread" the ends of the same.

The needles are perforated by a straight punch, so that the orifice has square ends, as in Fig. 2. They are then usually reamed to take off the square corners, as in Fig. 3, and finally threaded to have the ends of the eye rounded, as in Fig. 4.

By means of our mechanism the reaming is unnecessary, as the thread works with such greater power that it will change the punched eye, Fig. 5, into a round-ended eye, Fig. 6. After each needle has been scoured, the thread must be detached from the hook, in order to allow the removal of the finished and application of a punched needle.

By means of our mechanism the end of the eye will be accurately rounded, as the thread is in a position to produce the proper shape. The ordinary process of working the needle on the stretched thread made a good rounding of the eye almost impossible, as every inaccurate motion was apt to cause an improper bevel or slanting edge.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The device consisting of the wheel A, grooved, and provided with the hole through its periphery, the hook *c*, eye *b*, shaft B, and a support for the latter, substantially as set forth.

2. In combination with the subject-matter of the first clause of claim, the emery-covered thread E, as and for the purpose set forth.

3. In combination with the subject-matter of the first clause of claim, the belt *a* and treadle D, as and for the purpose set forth.

4. In combination with the subject-matter of the second clause of claim, the reel F, as and for the purpose set forth.

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Witnesses:
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