

(No Model.)

H. G. SUPLEE.
SEWING MACHINE NEEDLE.

No. 277,629.

Patented May 15, 1883.

Fig. 1. Fig. 2.

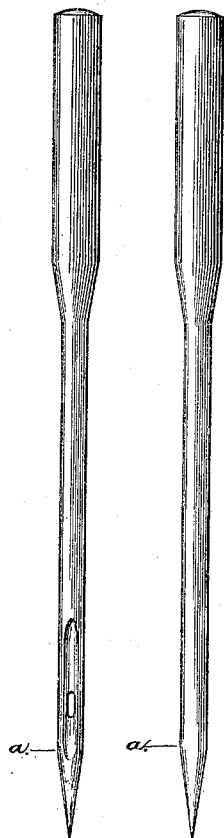
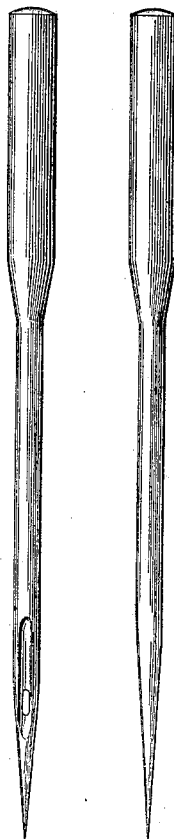


Fig. 3. Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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SEWING-MACHINE NEEDLE.

SPECIFICATION forming part of Letters Patent No. 277,629, dated May 15, 1883.

Application filed September 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, HANNAH G. SUPLEE, of the city, county, and State of New York, have invented a new and useful Improvement in Sewing-Machine Needles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to an improvement in needles for sewing-machines, whereby the needle is made to penetrate the fabrics to be sewed more readily and with greater ease and smoothness of movement than the needles heretofore in use, and in which the halting stroke due to the sudden change in the diameter of the shank at or about the eye, and the cutting or abrasion of the cloth oftentimes resulting from this form of the needle, are wholly obviated.

It consists in so fashioning the needle as that it shall present a long, gradual, constant, uniform taper from its extremity upward, so as to lose itself in the cylindrical shank at a point above the eye formed therein.

In the accompanying drawings, Figure 1 is an elevation, on an enlarged scale, illustrating the ordinary form of sewing-machine needles; and Fig. 2, an elevation of the same at right angles to the first.

In this needle the end below the eye alone is sharpened, being ground to a point upon a bevel which terminates abruptly at or below the eye of the needle, so that that portion of the end from the eye downward, which constitutes the piercing-point of the needle, presents in a longitudinal section the form of a comparatively short obtuse wedge. (See Fig. 2.) In the formation of this obtuse piercing-point by grinding the metal the termination of the tapering portion at its intersection with the cylindrical body or shank of the needle (see at *a*, Figs. 1 and 2) forms an angle or shoulder more or less abrupt, and also more or less sharp and cutting. These needles, when pushed into the cloth, meet with a rapidly-increasing resistance at the commencement of the stroke, which retards the advance of the needle until the shoulder or angle at *a* is passed, when, as the resistance instantly ceases, a consequent sudden acceleration of movement follows, so as to produce a slight jerk or jump in the action of the machine.

The comparative bluntness of the point renders its passage through a seam or any extra thickness of cloth difficult and produces a large percentage of the breakage in needles. The enlargement of the needle at *a* produces, in its passage through the cloth, a larger hole therein than is necessary, and, moreover, often breaks the threads of the fabric, so that a seam sewed with close stitches in a harsh or stiffened fabric will be found to break along the seam in consequence of the severance of the threads of the fabric. These disadvantages incident to the use of the ordinary sewing-machine needle are overcome in my invention, and a needle is supplied which in penetrating the cloth occasions the least possible resistance, and overcomes such resistance by a constant and uniform tension, which renders the stroke of the needle easy, steady, and equable. This improved needle, which is illustrated in Figs. 3 and 4, is tapered gradually and uniformly from above the eye to the point, as shown in Fig. 4, obviating entirely the enlargement and angle of the old style of needle, as illustrated at *a*, Figs. 1 and 2, and the obtuseness of the point. This gradual uniform taper may be extended from the point to a distance on the shank equal to the length of the stroke of the needle in passing down and up through the cloth; or it may terminate at a point nearer to the eye, although above it, the essential and distinctive feature of my invention being the production of a long tapering point, as shown in Fig. 4, intersecting and merging into the cylindrical body or shank of the needle above the eye, and presenting no abrupt angle at that point.

I claim herein as new, and desire to secure by Letters Patent—

An eye-pointed or sewing-machine needle tapering from above its eye to its extremity with a constant, easy, progressive reduction in diameter, forming an acute point merging into the cylindrical shank without enlargement or abrupt change in outline, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HANNAH G. SUPLEE.

Witnesses:

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