(No Model.)

F. W. OSTROM.

SEWING MACHINE NEEDLE.

No. 270,247. Patented Jan. 9, 1883.

Fig. 2.

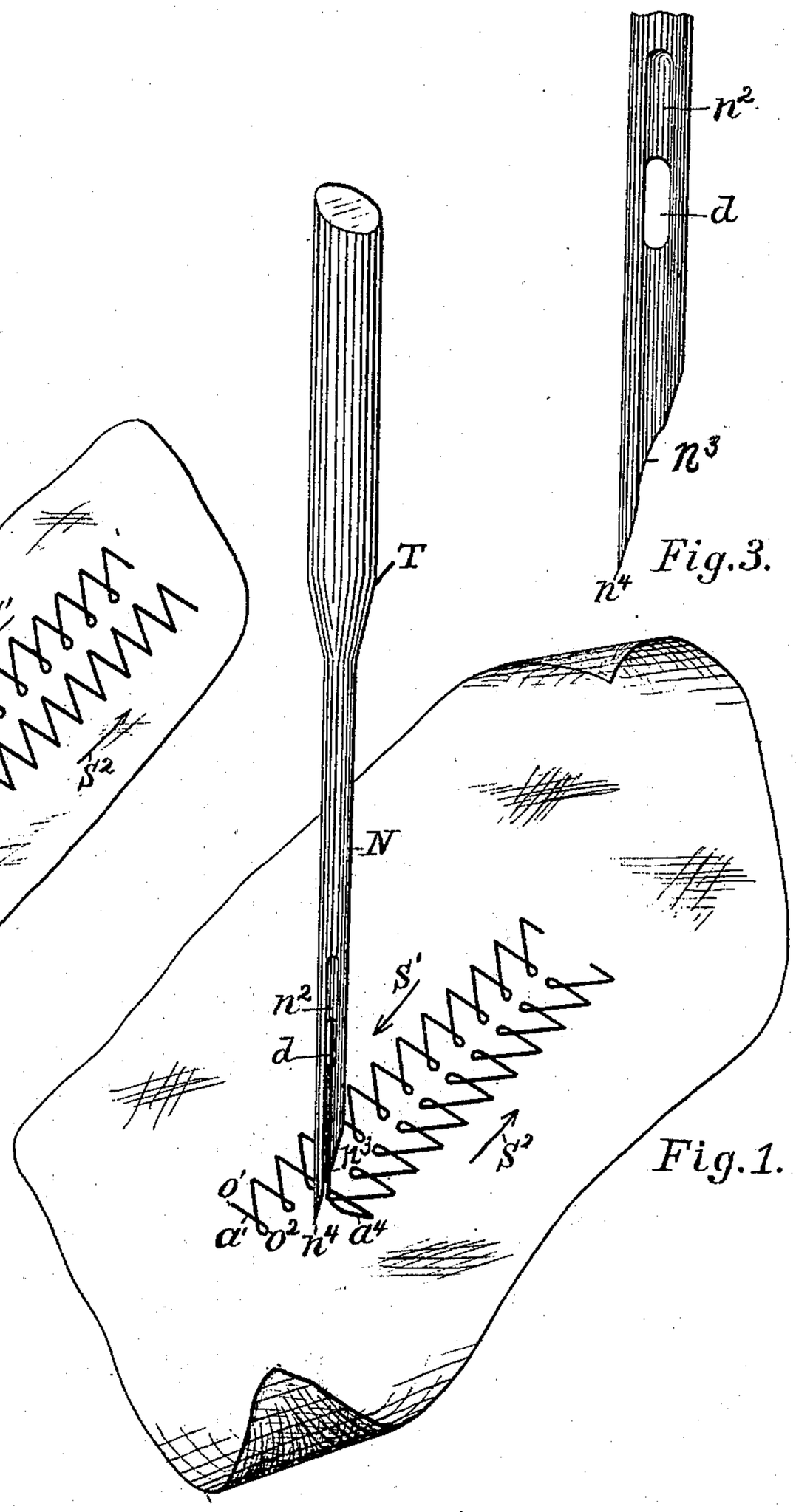

Fig. 1.

Fig. 3.

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UNITED STATES PATENT OFFICE.

FREELAND W. OSTROM, OF TROY, NEW YORK.

SEWING-MACHINE NEEDLE.

SPECIFICATION forming part of Letters Patent No. 270,247, dated January 9, 1883.

Application filed June 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, FREELAND W. OSTROM, of the city of Troy, county of Rensselaer, and State of New York, have invented a new and useful Improvement in Sewing-Machine Needles, of which the following is a specification.

My invention relates to improvements in the construction of sewing-machine needles to better adapt them to sew button-holes and other similar work.

As sewing-machine needles are ordinarily made, when applied to sew button-holes, from the manner in which the fabric is fed to the machine relatively to the position of the thread, the needles are compelled to go down back of the thread while making the puncture which produces the inner end of the stitches forming the left-hand side of the button-hole, and thus loop over the thread at that point, while the outer ends of these stitches are angularly laid, and so, also, are the ends of the stitches forming the right side of the button-hole. This irregularity is unsightly and objectionable; and the object of my invention is to obviate this result by constructing the needle so as to produce the inner ends of both rows of stitches forming the button-hole sides with uniformity.

In the accompanying drawings, forming a part of this specification, there are three figures illustrating my invention, all the features and parts shown being enlarged beyond their usual size to better illustrate them, and the same designation of parts by letter-reference being employed in all the figures.

Figure 1 shows in perspective the threaded needle and fabric, and the appearance of the stitches as made by the use of my improved needle. Fig. 2 shows in perspective the fabric and two rows of stitches as sewed therein to form a button-hole, and as appearing when sewed with an ordinary sewing-machine needle. Fig. 3 illustrates in perspective the lower and pointed part of my improved needle unthreaded, and as enlarged still more than as shown in Fig. 1.

The operation and construction of my improved needle, as compared with the ordinary sewing-machine needle, are described as follows:

The letter a' indicates the row of stitches as formed on the left-hand side of the button-hole with an ordinary sewing-machine needle, and a^2 the row formed in the fabric at the right-hand side by the same device.

The letter O′ designates the outer puncture, and O^2 the inner puncture made by the needle to produce the left-hand row of stitches, a', as the fabric is reciprocated in a line of motion opposite to that in which it is being fed to the needle, and indicated by the direction-arrow S′. When the fabric is thus being reciprocatingly moved, and is passing in return from the puncture O′ to that designated at O^2, it travels toward the thread and its tension, and as a sequence the needle descends to make the puncture O^2 back of the thread, and so as to loop the stitch at the latter point, and when the fabric is moved in return to make the outer puncture, O′, the direction of motion is against the tension, and the outer edges of this left-hand row of stitches are laid taut and angularly. When the fabric is fed to the needle ordinarily used in sewing-machines in the direction indicated by the arrow S^2 all the reciprocation is against the thread-tension, and the stitches formed on the right-hand side of the button-hole (indicated at a^2 in Fig. 1) are consequently laid taut and angularly.

To cause the needle to loop the inner edges of the right-hand row of stitches sewed to produce a button-hole, and thus give uniformity to the inner edges of both rows of stitches, as shown at a' and a^4 in Fig. 1, I construct the needle N with the longitudinal groove n^2, which extends from the eye d downwardly and along the needle to its angular end n^3, a little above the point n^4. When this needle is so constructed it is set in the machine with its eye turned from the front a trifle toward the rear. At the left-hand side it produces on the inner edges of the right-hand row of stitches the same loop-stitch as is made by the needle on the reverse line of feed when forming the inner ends of the left-hand row of stitches, a', and in the following manner: The thread, being held in the groove n^2, as the needle descends, is released from the end of the groove n^3 before the puncture is made, which consequently releases the measure of its tension take-up, and the needle descends to make the puncture back of the thread, and as the fabric moves over lays the loop on the inner end of the stitch in the same manner as it does on the reverse

line of feed when the reciprocation is toward the thread and its tension when producing the inner ends of the left-hand row of stitches, (designated at a'.)

The principal factors in the reconstruction of the needle which produces an improved result are the groove n^2 and the curve n^3 which the groove makes where it terminates in the angular taper of the needle end, and which holds the thread during a portion of the needle's descent, and then releases the thread before the puncture is made, so that the latter is made back of the thread and the loop laid as the fabric is moved from the puncture.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a sewing-machine needle, the combination of the groove n^2 and the curved recess n^3, formed in the angular surface of the needle, above its eye, by the termination of said groove, as and for the purposes herein described and set forth.

2. A needle for sewing button-holes, formed with the groove n^2 and the inclined end below the eye, substantially as described.

Signed at Troy, New York, this 5th day of June, 1882.

FREELAND W. OSTROM.

Witnesses:
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