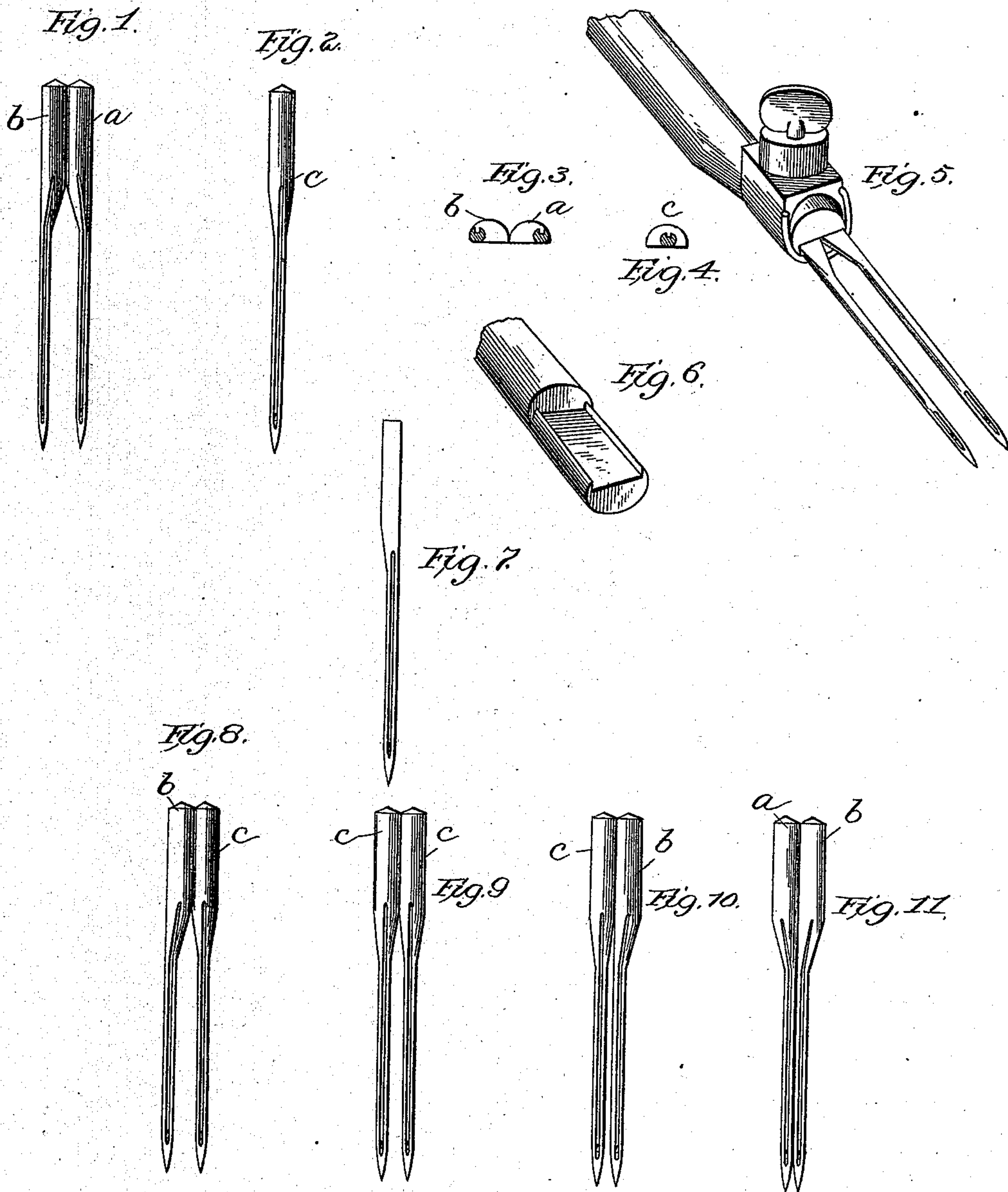


(Model.)

A. O. VERY.  
NEEDLE FOR SEWING MACHINES.

No. 413,770.

Patented Oct. 29, 1889.



Attest  
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# UNITED STATES PATENT OFFICE.

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## NEEDLE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 413,770, dated October 29, 1889.

Application filed December 21, 1888. Serial No. 294,256. (Model.)

*To all whom it may concern:*

Be it known that I, ALPHA O. VERY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Needles; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in the construction of needles and needle-bars for sewing-machines of that class which is fitted to sew parallel seams by one operation of the machine and in which the two needles required for this operation are held in one bar.

In the accompanying drawings, Figure 1 shows a pair of interchangeable needles, which are adapted, by shifting their positions in respect to each other, to give greater or less distances between their points in working. Fig. 2 shows another form of needle which is adapted to be used with one of the pair shown in Fig. 1. Fig. 3 is a cross-section of Fig. 1. Fig. 4 is a cross-section of Fig. 2. Fig. 5 is a perspective view of the needle-bar and clamp with the needles in it. Fig. 6 is a perspective view of the needle-bar. Fig. 7 is a modified form of needle. Figs. 8, 9, 10, and 11 show modified arrangements of the needles.

In the drawings I have shown in Fig. 1 two needles marked *a* and *b*. They are in general form like the ordinary needles used for sewing-machines; but they differ from the ordinary needles in this particular, that instead of being symmetrical—that is to say, with the longitudinal axis of the needle coincident with the longitudinal axis of the shank—these axes are non-coincident or parallel with each other.

In order to define more clearly what is meant by the terms used in the following description, I will explain what I mean by the terms “front,” and “rear,” and “side” as applied to my needle, inasmuch as the position of the needle in respect to the shank, in which the main point of the invention lies, is determined by its relation to the front and rear; and I desire by this particular description to distinguish between my invention and the old forms of needles, in which the rear is slabbed with a symmetrically-arranged shank.

It will be observed on inspection of the drawings that the needle has the ordinary eye near the point and the long groove on what I call the “front,” in line with the eye of the needle, and there is also ordinarily a

short groove directly opposite, or on what I call the “rear” of the needle. The rear of the needle, or the side opposite this long groove, is that which bears against the face of the needle-bar, to which it is clamped. The sides of the needle are the lateral parts on the right and left between the front and rear. As ordinarily made the rear of the shank is slabbed or made flat to rest against the ordinary flat face of the needle-bar; but the part opposite the long groove, as aforesaid, is the rear of the shank and needle whatever be the form of the face of the needle-bar to which the shank is fitted. As usual, the shanks are wider from side to side than the needle. Heretofore these wider shanks have been formed symmetrical upon the needles—that is, the sides extending equally beyond the sides of the needles, with the axis of the needle in line with the axis of the shank. These needles, when set in pairs on a needle-bar, are incapable of adjustment in respect to the distance between the needles by any shifting of position.

The object sought in my invention is to obviate this difficulty and to provide needles which, by change in their relative position, or by change of the needles, as hereinafter explained, may change the distance between the needle-points. For accomplishing this result I have made the needles, as indicated at *a b*, with the axis of the shanks on one side of the axis of the needles, or, as hereinafter explained more fully, with one side of the shank flush with the side of the needle and the other side of the shank extending beyond the needle, or with one side of the shank extending farther beyond the side of the needle than the other. These needles are made in pairs, with the greater extension of the shank, as above explained, extending in opposite directions in a pair of needles, so that when the needles of the pair are so placed that the greater extensions are on the opposite sides or away from each other the points are nearer to each other; but when these extensions are toward each other the points are farther separated. One of these needles also may be used, as hereinafter explained, with the same effect, differing only in degree with the ordinary symmetrical needle.

Referring to Fig. 1, it will be apparent that needle *a* is slightly set to the right in relation to its shank and needle *b* to the left, so



that the outer sides of the shanks are in straight or approximately straight lines with the side of the needles, while the inner faces of the shank, or those parts which are in contact when the needles are placed side by side in the position shown in Fig. 1, are out of line with the corresponding faces of the needles. When the needles of this pair, therefore, are placed together in the position shown in Fig. 1, their distance apart is the greatest. It will be observed that as they are placed in Fig. 1 the eye of the needle and the long groove—that is to say, the fronts—are on the same side in both needles, and the slabbed sides or backs are opposite, or in rear thereof.

It will be apparent that the position of the needles may be changed—that is, the needle *b* may be placed on the right of the needle *a*, still maintaining the slabbed or flat bearing-face, which is on the under side, in contact with the bearing-face of the needle-bar. In this position the distance between the two needles will be greatly lessened, the original position of the grooved side being maintained—that is to say, the needle is not turned nor its position changed, except in relation to the other needle of the pair. In this form the shank is of full width, and the effect above described is thus obtained, not by slabbing the side, but by setting aside the needle on the shank.

In Fig. 2 I have shown another form of needle not herein claimed. This needle has the rear slabbed to bear against the face of the needle-bar, and in this respect it is like those above described. It is to be noted, further, that the needles of a pair of this form have the shank of one set reversely to that of the other, as shown. For convenience of reference this needle is marked *c*. It has a grooved face opposite the slabbed face, like those shown in Fig. 1; but the sides of the shank in their relation to the sides of the needle are symmetrical, and the central line of the shank is a direct continuation of the central line of the needle, and each side is equally distant from this central line. It will be apparent upon inspection that two needles of this class may be shifted in the position in which they are clamped in the needle-bars without change of distance between them; but a needle of this form may be used in connection with the needle of the form shown in Fig. 1, with a varying result. For example, supposing the needle *b* in Fig. 1 be removed and the needle *c* be placed on its right-hand side, as shown in Fig. 8, the distance between the two needles will be reduced as compared between the needles shown in Fig. 1, since it will equal the full side of the shank of *b* and one-half of the symmetrical shank of *c*, and, calling, for the sake of comparison, the distance between the needles *a* *b* of Fig. 1 equal to four spaces, the distance between the needles of Fig. 8 would be three spaces. If, now, the needle *b* be removed from Fig. 8 and the duplicate of *c* be put in its place, then the

distance between the two needles will be reduced another unit and will be equal to two, as in Fig. 9.

Recurring again to Fig. 1, if the needle *a* be removed and the needle *c* be placed on the left-hand side of *b*, then the distance between the needles will be reduced by another unit, and may be represented as *l*, as in Fig. 10. Another change may be made, which consists simply in the reversing of the positions of the needles *a* and *b*, as shown in Fig. 11, so that their straight sides come into contact. The needles will then be close together, or as close as is practicable, separated only at their points by the point-bevel, this representing half a space. In all these changes the position of the eye and the grooved side of the needle is not changed; nor is the position of the slabbed or bearing face on the opposite side of the shank. The needles are all interchangeable, with the result explained, and the four needles described—that is, the needles *a* and *b* and duplicates of *c*—constitute a set, of which the needles *a* and *b* are the improved pair.

Instead of retaining the usual width of the needle-shank and arranging the shank wholly on one side of the body, as shown in Fig. 1, it will be understood that the same effect may be produced by slabbing off one side of an ordinary needle, such as that shown in Fig. 2. With a pair of needles slabbed in this manner, as in Fig. 7, and one ordinary needle, the same effect could be produced, as illustrated in Figs. 9, 10, and 11. By reason of the difference in width of the shanks of the needles of Figs. 1 and 7 the scope of the latter is more limited as to the variety of distances between the stitches.

I do not desire to limit myself to a needle having its sides directly in line with the body of the needle, as the effect can be varied by allowing the shank to project slightly on one side and more on the other, or, in other words, eccentric to the body of the needle. As shown, they are held by a form of clamp on the end of the needle-bar.

I claim as my invention—

1. A sewing-machine needle having an eye in the point thereof extending from front to rear and a shank set with its longitudinal axis at one side of that of the needle, substantially as described.

2. A sewing-machine needle having an eye in the point thereof extending from front to rear and a shank having its rear slabbed and set with its longitudinal axis at one side of that of the needle, substantially as described.

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

ALPHA O. VERY.

Witnesses:

W. H. BAKER,  
RODNEY LUND.