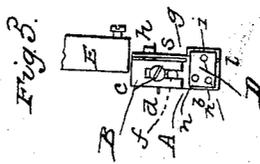
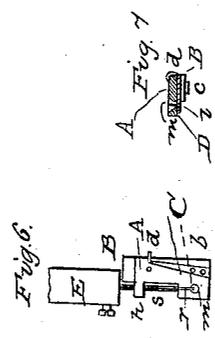
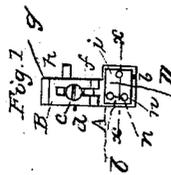
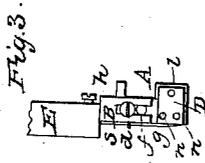
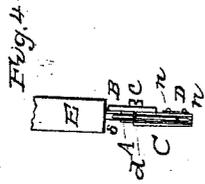


J. W. HARDIE.

Needle Setter and Threader for Sewing Machines.

No. 32,624.

Patented June 25, 1861.



WITNESSES
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UNITED STATES PATENT OFFICE.

JASON W. HARDIE, OF NEW YORK, N. Y.

IMPROVEMENT IN NEEDLE SETTERS AND THREADERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 32,624, dated June 25, 1861.

To all whom it may concern:

Be it known that I, JASON W. HARDIE, of New York, in the county and State of New York, have invented a new and Improved Needle Setter and Threader for Sewing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a side view of the instrument by itself, showing its feature and method of adjustability to adapt it to all sewing-machines; Fig. 2, an edge view of the same; Fig. 3, a side view of the instrument in connection with the end of a needle-bar, showing the manner of applying it in setting a needle in the needle-bar; Fig. 4, an edge view of the same; Fig. 5, a side view of the instrument in connection with the end of the needle-bar, showing the manner of its use in threading a needle; Fig. 6, a view of the opposite side thereof in the same situation; Fig. 7, a transverse section of the instrument in the plane indicated by the line *x x*, Fig. 1.

Like letters designate corresponding parts in all the figures.

The instrument is composed of a stock or principal piece, A, a gage-piece, B, and two spring needle holders or clasps, C D. The general form, arrangement, and size of these parts are indicated in the drawings, which represent the actual size of the instrument. The stock A has its edges and ends at right angles to each other, and the same is true of the edges and ends of the gage-piece B in relation to each other and to those of the stock. The gage-piece B is made adjustable lengthwise upon the stock, thus in effect lengthening or shortening the latter to adapt it to different sewing-machines which require different lengths of needles. This is an important improvement, and with other features of superiority (hereinafter to be specified) renders the instrument universal in its application to all sewing-machines.

The method adopted for adjusting the gage-piece B upon the stock is shown in Figs. 1 and 2. The lower end of the gage-piece is provided with a longitudinal notch or slot, *g*, of uniform width from end to end. This notch or slot fits over a projecting guide-pin, *f*, on

one side of the stock A, as shown, and also over a tightening-screw, *c*, which also assists in keeping the gage-piece in the right position. If the instrument is to be lengthened to apply a longer needle, the gage-piece, being set free, is raised to any required height, as indicated by red lines in Fig. 1, and then is secured in that position by the tightening-screw *c*. The instrument is thus retained for use in setting and threading all the needles of uniform length used in that machine; but if it is to be used with another sewing-machine the gage may have to be changed.

For the purpose of using the instrument in setting needles in the needle-bar, the stock A has a groove, *a*, in one edge wide enough to admit the largest needle to be used, and not so deep as to sink the smallest needle below the plane surface of that edge. Not far from the lower end of the stock and in the center of the groove *a* is a small projecting point, *b*, to receive the eyes of the needles. This point is that from which the positions and arrangements of all the other parts are determined. Over and across the groove *a*, near the upper end of the stock A, passes a projection, *d*, of the spring clasp or holder C. When a needle is to be set, it is run down the groove *a* under the clasp-projection *d*, which yields by the elasticity of the clasp and adapts itself to the size of the needle at the same time that it holds it in the groove. The eye of the needle is then hooked over the point *b*, and is then ready to be inserted in the needle-bar.

The mode of employing the instrument in inserting the needle in the needle-bar is shown in Figs. 3 and 4. The upper end of the gage-piece B is placed square against the lower end of the needle-bar E, the needles being inserted in the aperture for receiving it. Then, while the instrument is thus held, the needle is fastened in the needle-bar. The instrument is then separated from the needle, and is ready to be used afterward in threading the needle. The instrument not only gages the length of the needle, but, by holding it at the proper angle to the needle-bar, determines the proper direction of its eye.

A curved needle may be set with the same facility and accuracy as a straight needle, the spring-clasp D adapting itself thereto.

For the purpose of threading needles, the stock A has another groove, *l*, in one side, near the edge opposite to that in which the groove *a* is formed. The groove is parallel with the edges of the stock A, and its width and depth are similar to those of the groove *a*. A broad spring-clasp, D, closes down over nearly all of the groove *l*, its attachment to the stock being at *n n*, near the opposite edge thereof. In a line precisely at right angles across the stock from the projecting point *b* a threading-hole, *m*, is made through the stock A into the center of the needle-groove *l*. The threading-hole is broad or flaring on the opposite side, but contracts to about the size of a needle-eye on the groove side, as shown in Figs. 6 and 7. A hole, *i*, is made through the clasp-plate D precisely opposite to the threading-hole *m*, to allow the thread to pass out after going through the eye of the needle. A slit or notch, *r*, just wide enough to allow any thread used to pass through, extends upward from the threading-hole *m* out of the stock A, a portion being cut away from this edge of the stock, as shown in the drawings, leaving only a projecting portion, *h*, at the top for the upper part of the needle to rest against when placing the instrument for threading the needle.

The mode of applying the instrument for threading a needle is indicated in Figs. 5 and 6. The instrument is run up under the needle-bar, so that the point of the needle will enter the upper end of the groove *l* beneath the spring-clasp D until the upper end of the gage-piece

B strikes the needle-bar, as seen in the drawings. The position of the instrument is to be such that the grooved or flattened side of the needle shall be toward the stock A, and bearing thus in the bottom of the groove *l* invariably determines the right position of the needle for threading. The eye of the needle then is always found to be precisely between the holes *m* and *i*. The thread is then readily inserted into the broad mouth of the threading-hole *m*, and thence through the eye of the needle. The instrument is then at once withdrawn, the fast end of the thread escaping through the slit *r* and the free end slipping out of the hole *i*. The whole operation of threading a needle with this instrument is performed in a few seconds.

I do not claim uniting a needle setter and threader in one device; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The needle-setter provided with an adjustable gage to adapt it to different sewing-machines and lengths of needles, and in combination therewith, in one single and complete instrument, the needle-threader so arranged as to adapt it to different forms and sizes of needles, substantially in the manner and for the purposes herein specified.

The above specification signed by me this 16th day of June, 1860.

JASON W. HARDIE.

Witnesses:

J. H. BUCK,
G. W. SMITH.