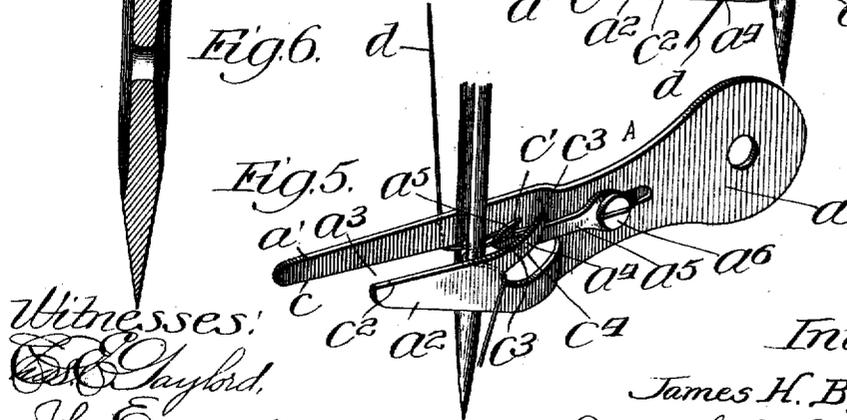
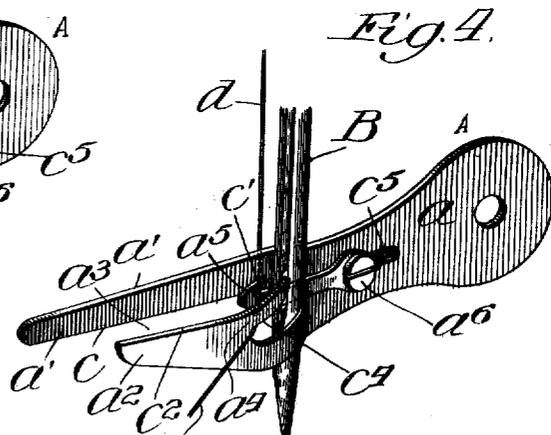
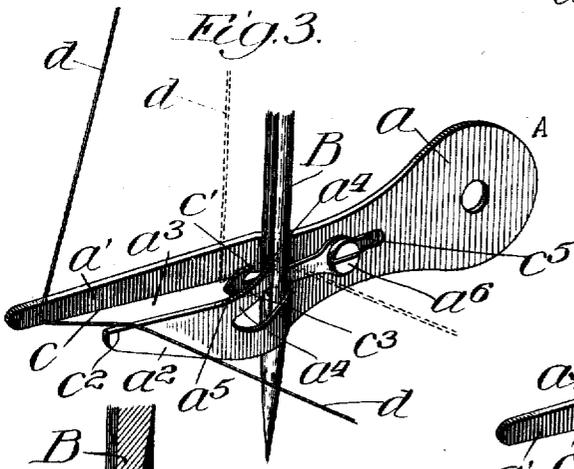
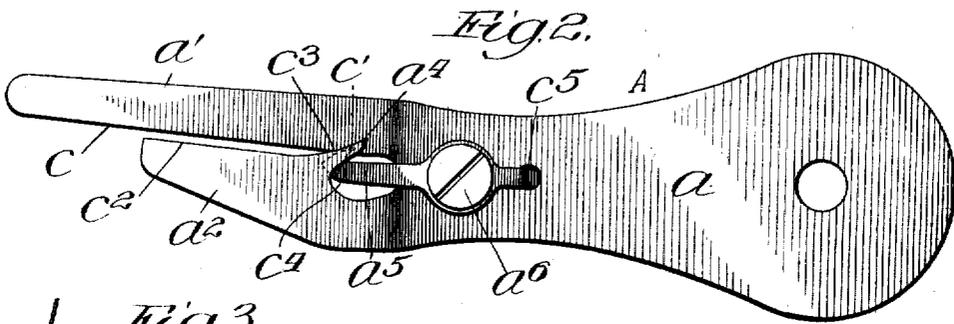
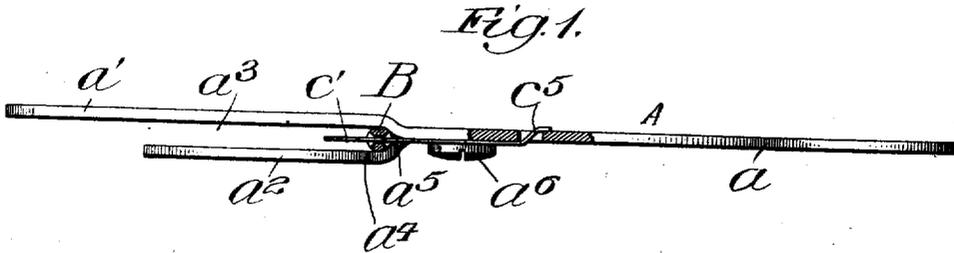


No. 878,767.

PATENTED FEB. 11, 1908.

J. H. BOYE.
NEEDLE THREADER.

APPLICATION FILED JULY 31, 1907.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES H. BOYE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE BOYE NEEDLE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

NEEDLE-THREADER.

No. 878,767.

Specification of Letters Patent.

Patented Feb. 11, 1908.

Application filed July 31, 1907. Serial No. 386,360.

To all whom it may concern:

Be it known that I, JAMES H. BOYE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Needle-Threaders, of which the following is a specification.

My invention relates particularly to devices for use in threading the needles of sewing-machines, although the device is not necessarily limited to use in connection with sewing-machine needles.

My primary object is to provide a device of the character indicated which will enable the needle-threading operation to be performed with facility and certainty by certain simple manipulations which require little skill or care in their performance.

The preferred embodiment of the invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a sectional view of a needle with a needle-threader in position for receiving a thread, said threader being shown partially in section; Fig. 2, a side-elevational view of said needle-threader; Fig. 3, a perspective view illustrating the first step in bringing the thread into engagement with the hook of the threader; Fig. 4, a similar view, showing the thread engaged by the hook of the threader; Fig. 5, a similar view, showing the threader partially retracted and the thread drawn through the needle-eye; and Fig. 6, a broken sectional view of a needle of common form, for use in connection with which the improved threader is adapted.

A represents my improved needle-threading device; and B, a needle which it is adapted to thread.

The device A comprises a shank, or handle, a ; a relatively long upper guide-prong a^1 ; a relatively short lower guide-prong a^2 , said guide-prongs lying on opposite sides of the plane of the shank and separated by a vertical space a^3 , so as to receive a needle between them; a guard-arm a^4 formed integrally with the base-portion of the guide-prong a^2 , and having a rearwardly and upwardly directed point; and a thread-hook a^5 secured by a screw a^6 to the front portion of the shank a and extending forwardly into the rear portion of the space a^3 .

The guide-prongs a^1 and a^2 may be formed integrally with the shank a by severing the

metal of a suitable sheet-metal blank longitudinally from one end thereof and striking the prongs thus formed in opposite directions. When suitably formed, the guide-prong a^1 has a lower edge c which passes slightly beneath the rearwardly turned point c^1 of the thread-hook a^5 ; and the guide-prong a^2 has an upper edge c^2 , which, as shown in Fig. 2, lies slightly beneath the plane of the edge c and curves upwardly, as indicated at c^3 , to form the upper edge of the guard a^4 . The point of the guard-arm a^4 lies slightly above and in the rear of the point c^1 of the thread-hook, and the lower edge c^4 of said guard-arm passes beneath the point of the thread-hook.

The thread-hook a^5 is preferably formed separately, and attached by the screw a^6 , as stated. Its shank is provided, in the rear of said screw, with an inturned point c^5 , which enters a perforation in the shank a , thus giving a more secure fastening for the thread-hook.

The thread is designated d .

In the threading operation, the device A is first brought into engagement with the needle, with the base-portions of the guide-prongs embracing the needle and the thread-hook passing through the needle-eye; the thread is then passed beneath the guide-prong a^1 and over the guide-prong a^2 , as indicated in full lines in Fig. 3; the thread is then moved laterally between the edges c , c^2 to the dotted position of Fig. 3; after passing the point of the guard-arm a^4 which has served to carry the thread up over the point c^1 of the thread-hook, the thread is then drawn laterally forwardly beneath the guard-arm, and, being now beneath the guide-prong a^1 at one side of the thread-hook and beneath the guard-arm a^4 at the other side of the thread-hook, the thread is forced with certainty beneath the point of the upwardly and rearwardly directed thread-hook extremity, as shown in Fig. 4. Simple withdrawal of the instrument then serves to thread the needle, as will be understood from Fig. 5.

The instrument is cheap, and its operation is easy and certain, requiring no special effort at steadiness on the part of the operator.

The foregoing detailed description has been given for clearness of understanding only, and no undue limitation is to be understood therefrom.

What I regard as new, and desire to secure by Letters Patent, is—

- 5 1. A needle-threader, comprising a shank carrying an upper guide-prong and a lower guide-prong which lie in different planes to adapt them to embrace a needle, a thread-hook projecting into the crotch between said guide-prongs, and a rearwardly extending guard crossing the space between the horizontal planes of said guide prongs, whereby the thread may be passed beneath the upper guide-prong and above the lower guide-prong, then moved, while riding on said guard, to pass said thread-hook, and finally retracted and guided by said guard into operative engagement with said thread-hook.
- 10 2. A needle-threader, comprising a member equipped with upper and lower guide-prongs, one of said prongs carrying a rearwardly and upwardly pointed guard-arm, said guide-prongs lying on opposite sides of a needle-receiving space, and a thread-hook extending into said space and lying between the upper guide-prong and said guard-arm, 25 for the purpose set forth.
- 30 3. A needle-threader, comprising a sheet-metal member having the metal split longitudinally at one end and the furcations struck in opposite directions to afford guide-prongs, one of said furcations having a rearwardly extending guard formed integrally therewith, and a thread-hook having its operative end lying between said guard-arm and the opposite guide-prong, for the purpose set forth.
- 35 4. A threader, comprising a handle having a relatively long upper furcation and a relatively short lower furcation projecting from one end thereof, a rearwardly and upwardly directed guard-arm carried by the lower furcation, and a thread-hook carried by said handle and having its operative end located 40 between said guard-arm and said upper furcation.
- 45 5. A threader, comprising a sheet-metal member formed with oppositely struck upper and lower furcations and with a rearwardly-pointed guard-arm, and a separately formed thread-hook secured to the shank of said sheet-metal member and having its operative end lying between said guard-arm and the opposed furcation, for the purpose set forth.
- 50 6. A threader, comprising a shank and upper and lower furcations carried thereby and separated by a needle-receiving space, and a thread-hook having its operative end extending into the crotch between said furcations, the extremities of the furcations projecting past the operative end of said thread-hook, whereby the thread may be drawn between the adjacent edges of said furcations and carried past the prong of the thread-hook and then retracted and carried into operative engagement with the thread-hook.
- 55 7. A threader, comprising a shank and two furcations carried thereby located on opposite sides of a vertical plane to provide between them a needle-receiving space, the lower surface of one furcation being near the level of the upper surface of the other furcation, one of said furcations being longer than the other, and a thread-hook having its operative end extending into the crotch between said furcations, whereby the thread 70 may be drawn between the adjacent edges of said furcations and carried past the prong of the thread-hook and then retracted and carried into operative engagement with the thread-hook.
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JAMES H. BOYE.

In the presence of—
RALPH SCHAEFER,
J. H. LANDES.