No. 648,029. Patented Apr. 24, 1900.

J. H. HOOVER.

NEEDLE THREADER.

(Application filed Dec. 18, 1899.)

(No Model.)

Fig. 1.

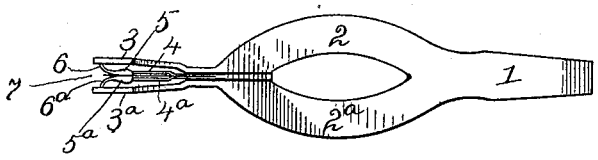


Fig. 2.

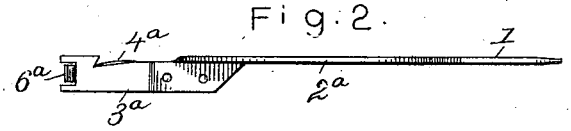


Fig. 3.

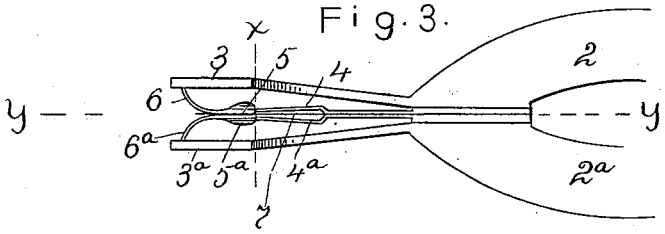


Fig. 4.

Fig. 6

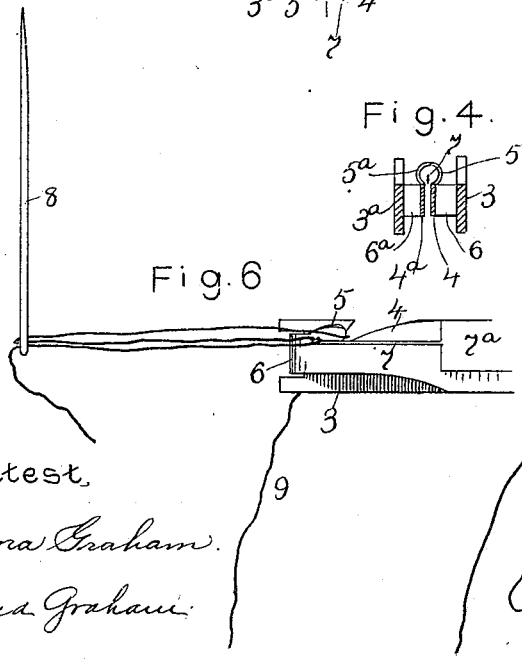
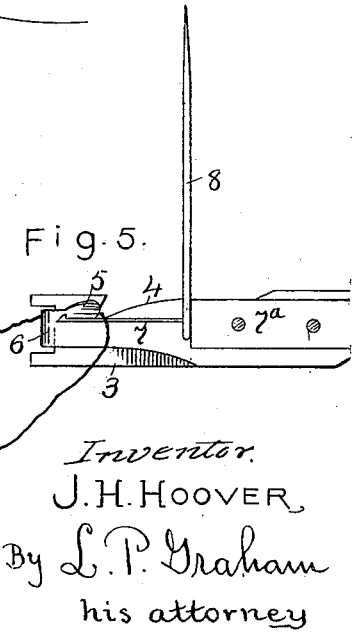


Fig. 5.



Attest,

Nora Graham.

Ira Graham.

Inventor.

J. H. HOOVER,

By L. P. Graham

his attorney

UNITED STATES PATENT OFFICE.

JAMES H. HOOVER, OF DECATUR, ILLINOIS.

NEEDLE-THREADER.

SPECIFICATION forming part of Letters Patent No. 648,029, dated April 24, 1900.

Application filed December 18, 1899. Serial No. 740,641. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. HOOVER, of the city of Decatur, county of Macon, and State of Illinois, have invented a certain new and useful Needle-Threader, of which the following is a specification.

This invention combines a needle-threader with a screw-driver, though the needle-threader is operative independent of and separate from the screw-driver. It is exemplified in the structure hereinafter described, and it is defined in the appended claims.

In the drawings forming part of this specification, Figure 1 is a plan or face view of a combined screw-driver and needle-threader embodying my invention. Fig. 2 is an elevation or edge view of the device. Fig. 3 is an enlarged detail plan of the needle-threading structure. Fig. 4 is a section on line *x* in Fig. 3. Fig. 5 is a section on line Y in Fig. 3, showing a needle in position to be threaded. Fig. 6 is a like section showing the needle in act of threading.

The screw-driver blade 1, the handle 2 2^a, and the protecting side bars 3 and 3^a of the needle-threader are all preferably formed out of a sheet-metal plate stamped and bent to form. The plate is stamped with the handle-bars 2 and 2^a somewhat farther apart than they are shown in the drawings and with the bars 3 and 3^a forming continuations of the handle-bars and extending in the same plane therewith. Afterward the bars 3 and 3^a are turned edgewise with relation to the handle and are bent into approximately the forms shown in the drawings. A pair of guide-bars for the needle are fastened between bars 3 and 3^a at their conjunction with the handle. They extend between bars 3 and 3^a to near the ends thereof, and they curve outward at their ends into slots in the ends of the protecting side-bars. The guide-bars are elastic. They are designated in the drawings by reference-numerals 4 and 4^a, and their divergingly-bent ends are indicated by 6 and 6^a. The spring-bars and the side bars all have undercut notches to the rear of the conjunction of bends 6 and 6^a, and the hooks 5 and 5^a of the spring-bars formed by the notches therein are curved outward, upward, and together, as shown in Fig. 4. A thin steel strip 7^a is fastened between the guide-bars, and its forward end is formed into a rod 7, having a hook on its end to engage the thread. The hook-rod terminates against a square shoulder of the strip 7^a, and the spring-bars are slightly separated adjacent to the shoulders.

In using the threader a needle 8 is placed against the converging ends 6 and 6^a of the guide-bars, with its eye presented toward the pointed end of rod 7, and is moved gently up or down in the angle until the pointed end of the rod engages the eye. Then the needle is slipped back on the rod until it strikes the shoulder of strip 7^a, and a thread 9 is laid over the guide-bars and the protecting side bars in the notches thereof, as suggested in Fig. 5. Next the needle is stripped off the hooked rod, and as it passes the hook thereof the thread is caught by the hook and is passed doubled through the eye of the needle, as suggested in Fig. 6, after which one of the runs of thread may be pulled through the needle in the usual way. As the needle approaches the hook of the threading-rod in a threading operation the curved-over hooks 5 and 5^a guide the thread accurately to the threading-hook and necessitate its engagement therewith.

The free ends of the guide-bars separate to permit the needle to pass, and in doing so the ends 6 and 6^a move in and are guided by the slots in the ends of bars 3 and 3^a.

The handle of the screw-driver also forms a convenient handle for the threader, while the bars 3 and 3^a permit the device to be used as a screw-driver without injury to the needle-threading device.

I claim—

1. In a needle-threader, the combination of a pair of notched elastic bars disposed approximately parallel and having diverging ends, and a hooked threading-rod fixed between the spring-bars parallel therewith and terminating in the angle formed by the diverging ends of the spring-bars, substantially as described.

2. In a needle-threader the combination of a pair of notched approximately-parallel elastic bars having diverging ends and also having the hooks formed by the notches bent outward, upward and inward to form guides for the thread, and a hooked threading-rod fixed between the spring-bars parallel therewith with its point in the angle formed by the di-

verging ends and its hook in advance of the guide-hooks of the spring-bars substantially as described.

3. In a needle-threader, the combination of a handle, or body composed of the separated strips 2 and 2^a and the continuation 1 of the conjoined strips, bars 3 and 3^a formed of continuations of the handle-strips, spring-bars 4 and 4^a between the protecting-bars and a threading-hook 7 between the spring-bars, the ends of the spring-bars diverging into slots in the ends of the protecting-bars and the bars being notched back of the hook of the threading-rod, substantially as described.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

J. H. HOOVER.

Witnesses:
W. J. CHENOWETH, Jr.,
J. W. REAVIS.