

H. A. ELLIS.

THREADERS FOR SEWING-MACHINE NEEDLES.

No. 171,654.

Patented Jan. 4, 1876.

fig. I,

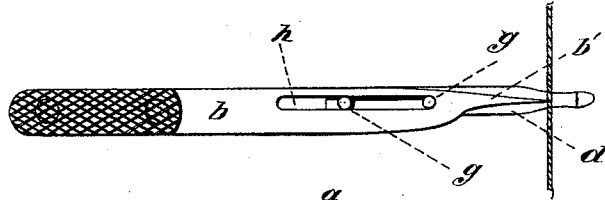


fig. II,

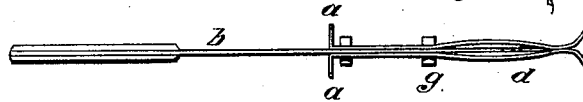


fig. III,

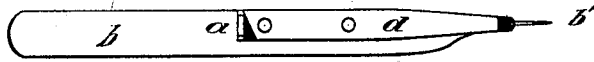
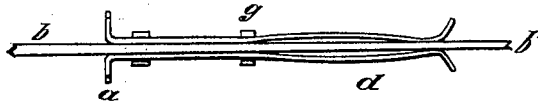


fig. IV,



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UNITED STATES PATENT OFFICE.

HENRY A. ELLIS, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN THREADERS FOR SEWING-MACHINE NEEDLES.

Specification forming part of Letters Patent No. **171,654**, dated January 4, 1876; application filed July 2, 1875.

To all whom it may concern:

Be it known that I, HENRY A. ELLIS, of Springfield, Massachusetts, have invented an Improved Threader for Sewing-Machine Needles, of which the following is a specification:

The nature and objects of my invention are fully illustrated in the accompanying drawings and description.

Figure I is an enlarged partial view of my threader; and Figs. II, III, and IV are enlarged views of my device in different positions.

In the threader for which Letters Patent were granted me December 15, 1874, No. 157,745, pivoted spring-jaws, after guiding the needle over the notched end of a bar retaining the thread, were swung down to leave the threaded needle exposed for removal; but to manipulate it the thread had to be held upon each side of the notched bar while the needle was being threaded, and had, moreover, to be so held until the jaws were swung to one side, and until the threaded needle was withdrawn, and the needle had to be withdrawn by means of the loop formed by the thread, for if the thread as first grasped was released it was liable to be caught by the swinging jaws and taken from the eye of the needle; or if it was attempted to remove the needle, except by means of the loop formed through its eye, it was liable to become unthreaded through the catching of one of the fore ends of the thread on the swinging jaws. So that to overcome these objections, as well as to greatly reduce the number of motions incident to the use of a threader, while retaining all of the advantages of few parts, and simplicity and ease of mechanical construction, I have formed a threader as follows:

To the flat sheet-metal piece *b*, which, forming the handle of the threader, is prolonged and reduced to form the notched bar *b'* is keyed the spring-clamp *d*, so as to have a limited movement in a direction coincident with the axis of the bar *b'*, and so as to be capable of being extended or retracted to cover or uncover the notched end *b'*. This clamp is formed of corresponding spring-jaws, which coming against, and conforming to, the flat sides of the piece *b*, are united through it by pins *g g*, which play in the slot *h*, as shown in Fig. I, and guide the clamp, and determine the distance it may move.

The free ends of the jaws are deflected from their point of contact to form a guide for the thread and needle, while the other ends are bent up to form thumb-pieces *a a*, by which the clamp is held or slid.

The clamp, when projected to the limit of its movement to cover the bar *b'*, extends sufficiently beyond its end to clamp the thread before the needle is inserted.

I thus dispense with the necessity of the proper position and tension being supplied and maintained by the finger, as when the thread is brought between the clamp ends it is by them held until they are retracted past the end of the bar *b'*, which has passed with its thread through the eye, by reason of the first pressure of the threader upon the needle coming against the flared ends of the clamp, and which clamp in its movement holds the thread until the bar has taken it into the eye of the needle.

All pressure and tension upon the thread being removed by the retraction of the clamp, the threader is free to be withdrawn from the threaded needle without danger of disturbing the loop, and the pieces *a a* offer a convenient means of advancing the clamp again by coming beneath a finger of the hand employed in holding the threader, and thus enable all of the motions necessary to the operation of this threader to be performed by one hand.

In use the thread is brought from the tension of the sewing-machine and carried between the jaws of the clamp, the threader being held to draw the thread sufficiently taut to leave no twists to interfere with the needle being passed over the notched end *b'* and thread caught thereon.

In Fig. IV the bar *b* is magnified to show the notch, that in the working size would be microscopic.

It will be seen that in the threader thus constructed, no previous practice will be required to render it easily available.

Now, having described my invention, what I claim is—

A needle-threader, composed of the sliding spring-clamp *d* and notched bar *b'*, the several parts being constructed and operating together substantially as shown and described.

HENRY A. ELLIS.

Witnesses:

T. M. BROWN,
R. F. HYDE.