

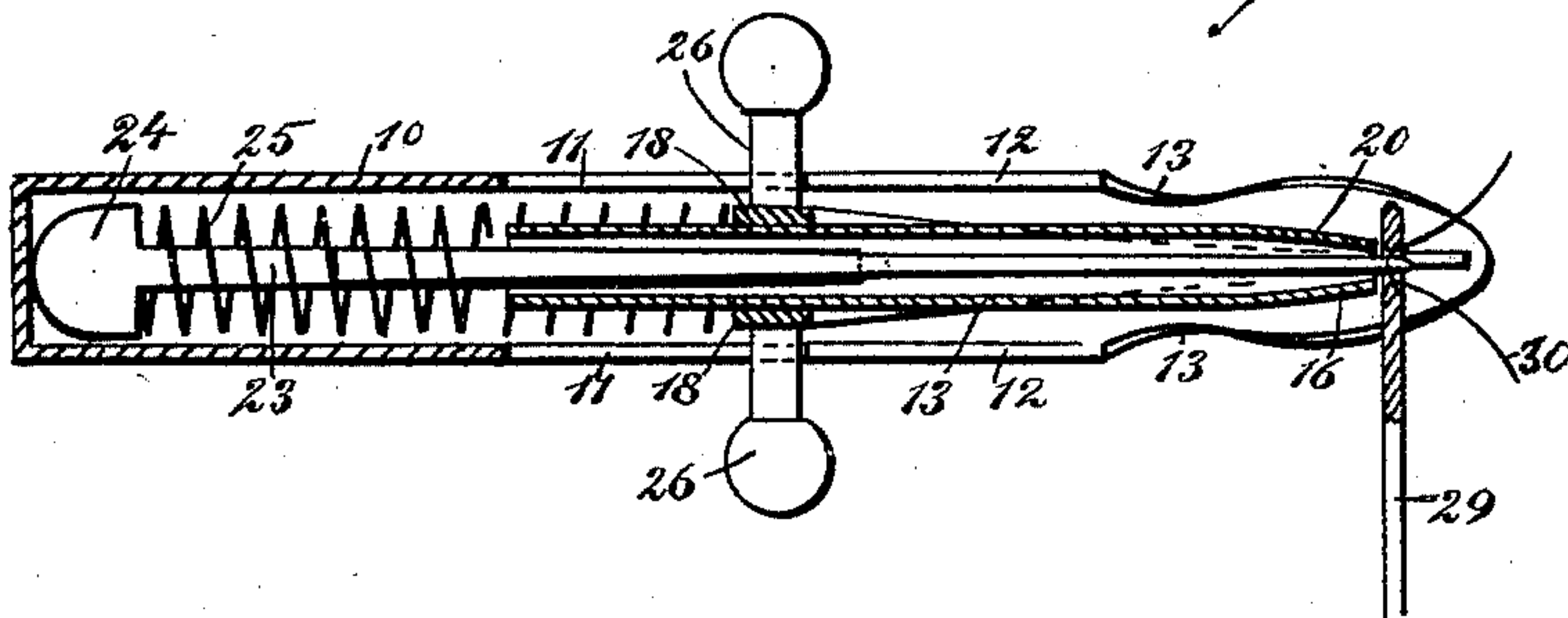
(No Model.)

W. H. LIGHTY.  
NEEDLE THREADER.

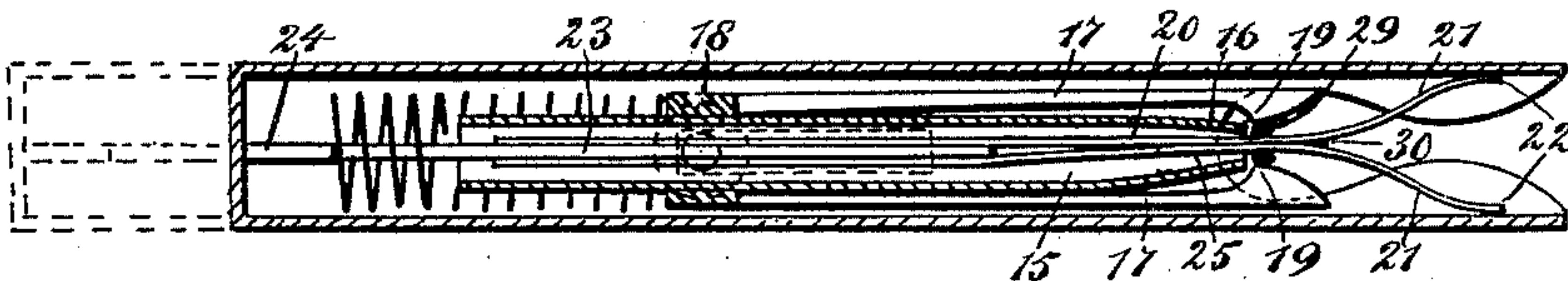
No. 462,147.

Patented Oct. 27, 1891.

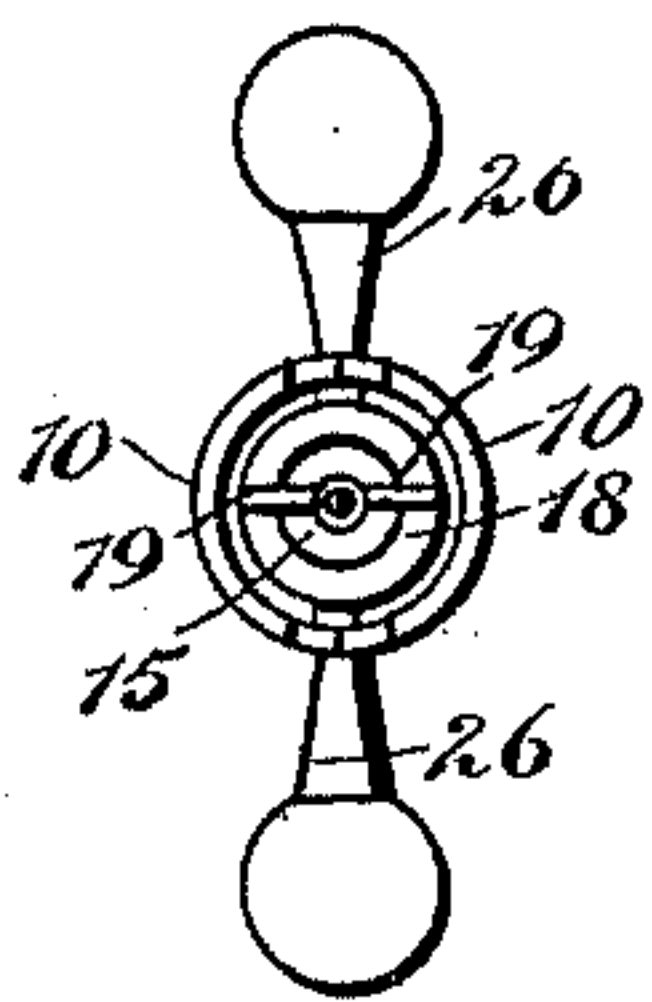
*Fig. 1.*



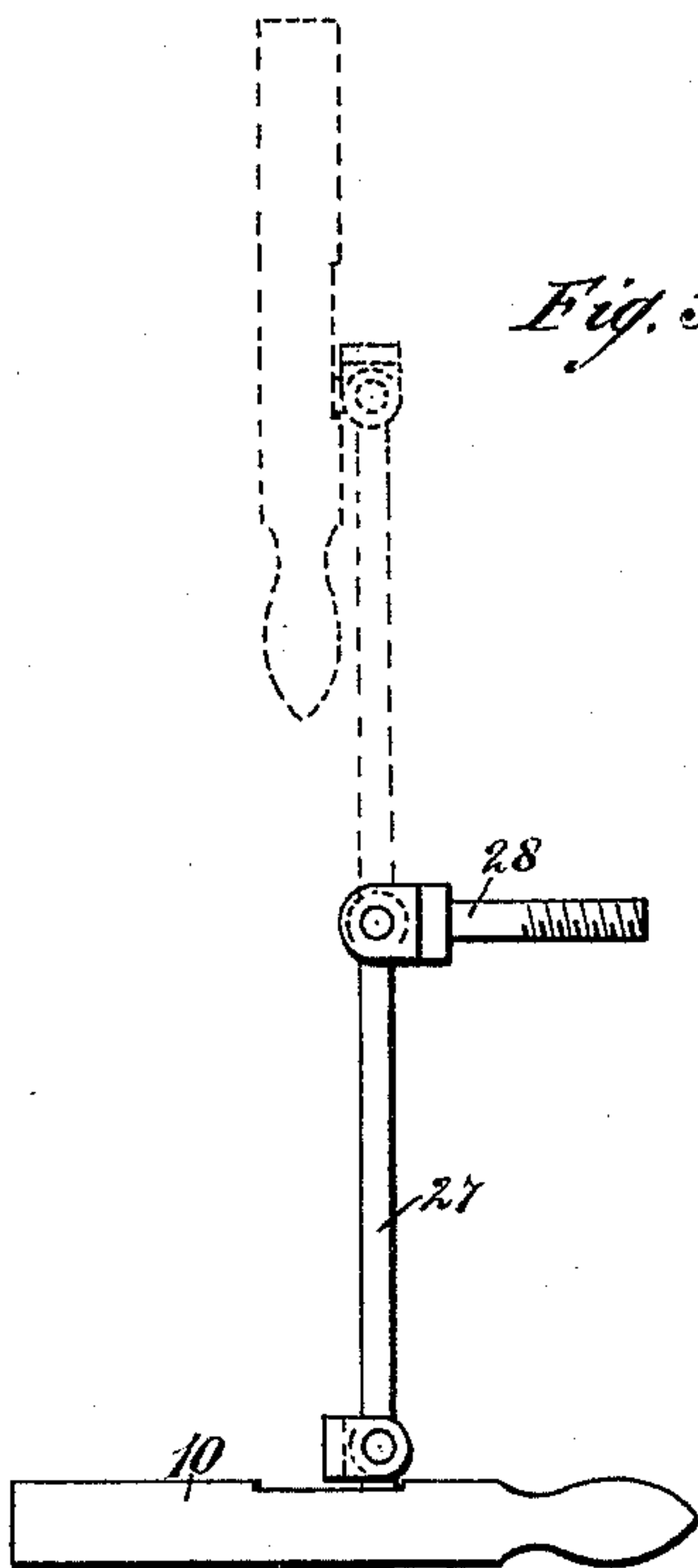
*Fig. 2.*



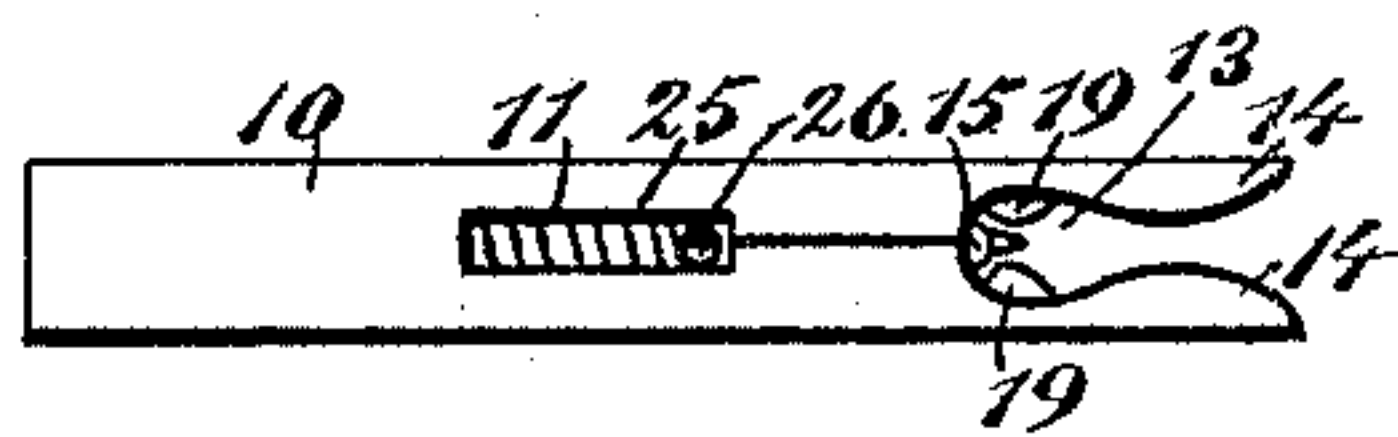
*Fig. 3.*



*Fig. 5.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

WILLIAM H. LIGHTY, OF MONTICELLO, INDIANA.

## NEEDLE-THREADER.

SPECIFICATION forming part of Letters Patent No. 462,147, dated October 27, 1891.

Application filed April 7, 1891. Serial No. 387,920. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. LIGHTY, of Monticello, in the county of White and State of Indiana, have invented a new and Improved Needle-Threader, of which the following is a full, clear, and exact description.

My invention relates to improvements in needle-threaders; and the object of my invention is to produce a needle-threader which may be quickly and easily adjusted to a needle of any size and which will accurately and rapidly insert the thread through the eye of the needle.

To this end my invention consists of a needle-threader constructed substantially as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is an enlarged longitudinal section of the needle-threader, showing it applied to a needle. Fig. 2 is a longitudinal section taken at right angles to the view shown in Fig. 1. Fig. 3 is a front end view of the threader. Fig. 4 is a plan view of the threader; and Fig. 5 is a detail view, in side elevation, showing the manner in which the threader is applied to a sewing-machine.

The threader is provided with an outer case 10, which is preferably cylindrical in form and which is closed at one end, and the case has near the center and on opposite sides slots 11, through which the handles extend in the manner hereinafter described, and the case is slit from the slots to the front end. Near the front end of the case it is cut away on opposite sides, as shown at 13, so that the operation of the threading mechanism may be seen, and from these cut-away portions or openings the members of the case are curved outward and terminate in diverging points, as shown at 14, thus forming wings which serve as guides for the thread.

Within the main case is a smaller cylinder 15, which is open at both ends, and the front end of which is tapered, as shown at 16, the tapering end being reduced so that the opening through it will be but little larger than the eye of a needle.

On opposite sides of the cylinder 15 are spring-guides 17, which at their inner ends

are formed into a base 18, which is soldered to the cylinder, and the outer ends of the guides extend slightly beyond the front end of the cylinder and terminate in hook-like ends 19, the points of which diverge and serve as needle-guides, and the barb-like parts of which are arranged opposite each other and adjacent to the opening in the cylinder. Within the cylinder are the tongues 20, which are made, preferably, of finely-tempered steel, and which serve as tweezers to pull the thread through the eye of the needle. The tongues 20 are tempered in such a manner that they will normally spring apart, and their outer ends are arranged to diverge, as shown at 21 in Fig. 2, and at the extreme points they are bent slightly inward, as shown at 22 in the same figure. The inner ends of the tongues are secured to a small rod 23, which extends backward through the rear end of the cylinder 16, and which terminates in a flat head 24, having shoulders on the front side, and this rod 23 is encircled by a spiral spring 25, which is arranged between the head 24 and the base 18 of the needle-guides 17, and the pressure of the spring will normally push the guides and the cylinder 15 forward.

The threader is provided with handles 26, which extend through the slots 11 in the opposite sides of the case 10, and these handles are secured at their inner ends to the base 18 of the needle-guides.

When the threader is to be used upon a sewing-machine, an arm 27 is pivoted at one end to the threader, as shown in Fig. 5, and the opposite end of the arm is pivoted in the screw 28, which is placed in the face-plate of the sewing-machine, the screw being arranged so that when the needle is at its highest point the threader may be easily adjusted to it, and when the threader is in use it is tipped up, as shown in dotted lines in Fig. 5, where it will be out of the way.

The operation of the threader is as follows: To thread a hand-needle, place the threader between the two first fingers with the thumb resting at the back; then place the needle against the needle-guides, press it gently to place, and draw it downward with the eye toward the point of the cylinder until the points of the tongues 20 catch the eye of the needle; then press the thumb forward against the



handles 26, holding the needle firmly in place, adjust the thread between the thread-guides or wings and against the needle, release the thumb gently, and it will draw the thread through the eye of the needle.

The operation of clamping of the thread between the tongues is as follows: When the handles are pushed forward the tongues will protrude from the cylinder 15 and at first their points will be together, so that they will easily go through the needle-eye; but as they pass through they diverge, so that the thread 30 is caught between them, as shown in Fig. 2, and when the cylinder is allowed to move backward the tongues close upon the thread, thus clamping it between them, and it is drawn backward through the needle-eye.

The threader is preferably made of an approximately rectangular shape, and it may be made of any suitable material. It may be ornamented and worn as a charm on the watch-chain.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A needle-threader comprising a case, a spring-pressed tapering cylinder arranged within the case, and spring-tongues held within the cylinder and adapted to extend from the tapering end thereof, substantially as described.

2. A needle-threader comprising a case, a spring-pressed tapering cylinder held within the case, spring-tongues held within the cylinder and adapted to extend from the tapering end of the same, and tapering needle-guides arranged at the mouth of the cylinder, substantially as described.

3. A needle-threader comprising a hollow

slotted case having end guides diverging at the points, a spring-pressed tapering cylinder mounted within the case, spring-tongues held within the cylinder and adapted to extend from the end thereof, and tapering needle-guides at the mouth of the cylinder, substantially as described.

4. A needle-threader comprising a hollow slotted case having end guides diverging at the points, a spring-pressed tapering cylinder mounted within the case and having handles extending through slots of the case, spring-tongues held within the cylinder and adapted to extend from the end of the same, and tapering needle-guides having hook-like ends with their barbs arranged on opposite sides of the cylinder end, substantially as described.

5. A needle-threader comprising a hollow slotted case having thread-guides at one end, a tapering cylinder arranged within the case, a rod mounted in the case and arranged to enter the cylinder, said rod having a head at its rear end, a spring arranged between the rear head of the rod and a projection of the cylinder, needle-guides arranged on opposite sides of the cylinder, with their hook-like ends opposite the mouth of the latter, spring-tongues secured to the rod which enters the cylinder, said tongues being adapted to extend from the front end of the latter, and handles secured to the cylinder and extending through the slots in the case, substantially as described.

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