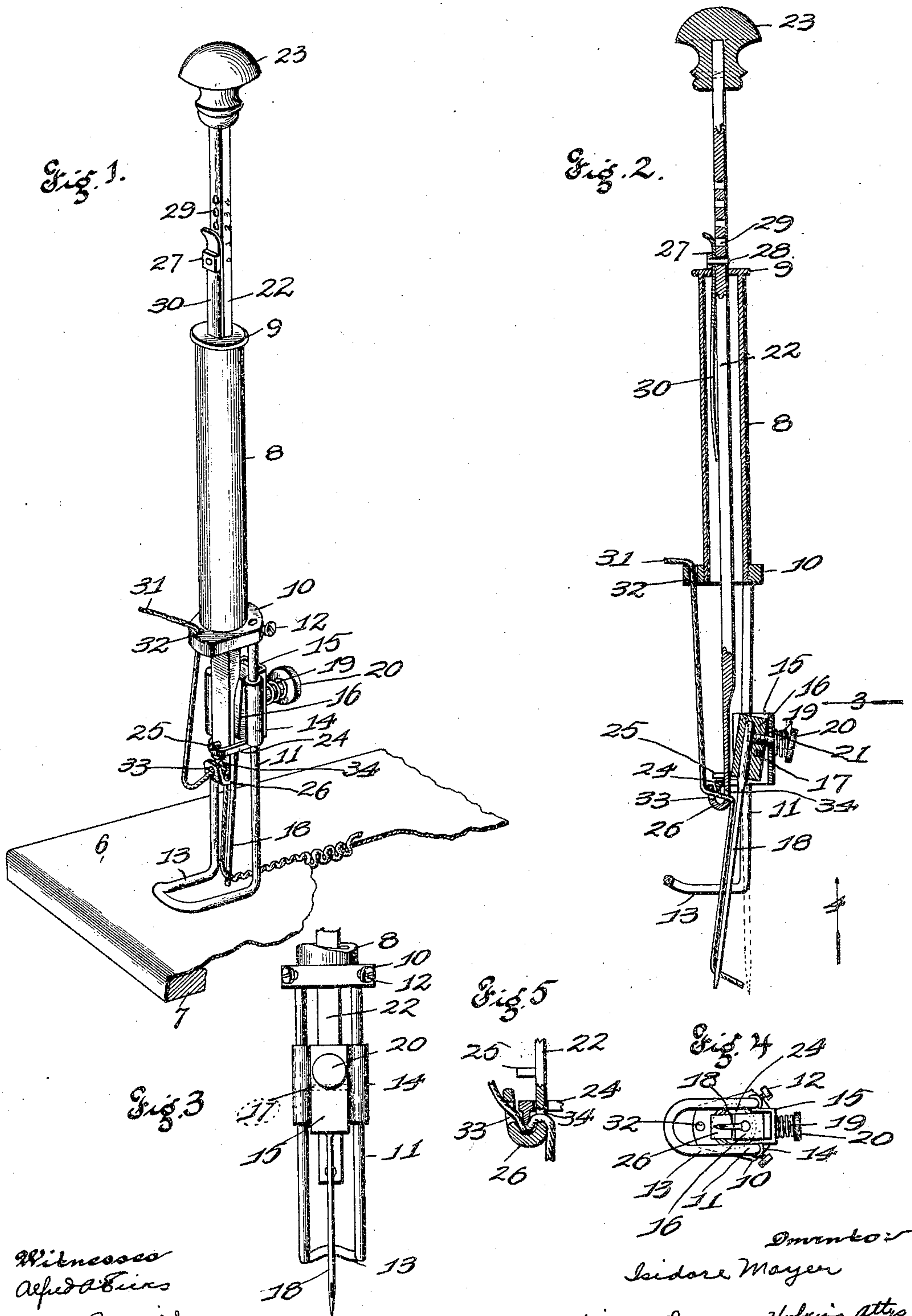


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I. MAYER.  
EMBROIDERY NEEDLE.  
APPLICATION FILED JULY 11, 1904.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## EMBROIDERY-NEEDLE.

SPECIFICATION forming part of Letters Patent No. 793,674, dated July 4, 1905.

Application filed July 11, 1904. Serial No. 215,997.

*To all whom it may concern:*

Be it known that I, ISIDORE MAYER, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Embroidery-Needles, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to embroidery-needles; and it consists of the novel features herein shown, described, and claimed.

In the drawings, Figure 1 is a perspective showing my improved embroidery-needle in use. Fig. 2 is a vertical sectional side elevation of the embroidery-needle shown in Fig. 1. Fig. 3 is a rear elevation of the lower part of the embroidery-needle as seen looking in the direction indicated by the arrow 3 in Fig. 2. Fig. 4 is a bottom plan view as seen in the direction indicated by the arrow 4 in Fig. 2. Fig. 5 is a sectional detail, upon an enlarged scale, analogous to Fig. 2 and showing the means of clamping the thread or yarn, the other parts being broken away to economize space.

Referring to the drawings in detail, the material 6 to be embroidered is attached to a suitable frame 7 in the ordinary way. The main frame of my improved embroidery-needle comprises the tubular carrying-handle 8, the bearing-block 9 at the upper end of the handle 8, the bearing-block 10 at the lower end of the handle 8, the legs 11, mounted in bearings in the bearing-block 10 and held adjustably in position by means of the set-screws 12, and the feet 13 extending forwardly from the lower ends of the legs 11 and connected at their forward ends. The bearing-block 14 is slidingly mounted upon the legs 11, the central portion of said bearing-block being offset backwardly to form a rectangular housing 15, and the needle-holder 16 is mounted in said housing upon the pivot 17. The needle 18 is inserted upwardly into the needle-holder, the expansive coil-spring 19 is inserted against the rear face of the bearing-block, and a set-screw 20 is inserted through the spring 19, through a large opening 21 in the bearing-block 14 and screw-seated in the needle-holder 16 at a point above the pivot 17, the point of

the set-screw engaging the needle to hold the needle in the holder and the spring 19 engaging the head of the screw, the tension of the spring being exerted to throw the upper end of the needle-holder backwardly, thereby throwing the point of the needle forwardly, so that the needle stands slightly inclined relative to a vertical line or relative to the legs 11. The point of the needle operates between the feet 13.

The operating-bar 22 is slidingly mounted in the bearing-block 9, and the operating-handle 23 is fixed upon the upper end of the operating-bar. A loop 24 extends forwardly from the lower end of the bearing-block 14, and the lower end of the operating-bar 22 extends through this loop and is slidingly mounted therein, there being a stop-pin 25 fixed in the bar 22 to limit the downward motion of the bar through the loop 24 and there being a hook 26 upon the lower end of the bar 22 to limit the upward motion of the bar relative to the loop. There is lost motion in the connection between the bar 22 and the bearing-block 14 to the extent of the distance between the stop 25 and the hook 26.

The needle-regulating stop-plate 27 is mounted upon the pin 28, and the pin 28 is removably mounted in any desired one of the series of stop-openings 29, formed in the operating-bar 22, said stop-openings being numbered "0," "1," "2," "3," and "4," and a retaining-spring 30 is attached to the pin 28 and extends downwardly beside the bar 22, through the bearing-block 9, and to a considerable distance below the bearing-block, the tension of the spring being exerted to hold the pin 28 yieldingly and removably in the desired opening 29. The stop-plate 27 regulates the up-and-down motion of the operating-bar 22, thereby regulating the stroke of the handle 8. The yarn or thread 31 is threaded through the eye 32 in the bearing-block 10, then through the eyes 33 and 34 in the ends of the hook 26, and then through the eye of the needle. The operator will grasp the handle 8 with one hand and the handle 23 in the other hand, place the feet 13 upon the fabric 6, with the handle 8 in a vertical position, only grasping the handle 8 firm enough to maintain the vertical position,



and then operate the handle 23 to move the operating-bar 22 up and down. The upward motion of the operating-handle is limited by the bearing-block 14 striking the bearing-block 10, and the downward motion is limited by the stop-plate 27 striking the bearing-block 9. The needle 18 will pierce the fabric, and as it moves downwardly through the fabric the slant of the needle will cause the feet 13 to move forwardly upon the fabric. Then as the needle is elevated the spring 19 will yield and allow the needle to assume a vertical position until it passes above the fabric, and then said spring will cause the needle to snap forwardly to its normal inclined position. Then as the needle is again depressed the feet 13 are again pushed forwardly and the operation is repeated, thereby giving a step-by-step motion to the frame. When the yarn is carried downwardly through the fabric by the needle and the motion of the operating-handle is reversed, the loop 24 will engage the yarn in the hook 26, thereby gripping the yarn and causing it to be withdrawn with the needle, so that only a single loop is made at each up-and-down motion of the needle.

By the use of my improved embroidery-needle all kinds of fancy figures may be worked upon the material, as desired.

I claim—

1. In an embroidery-needle: the tubular handle 8; the bearing-block 9 at the upper end of the handle; the bearing-block 10 at the lower end of the handle; the legs 11 mounted in bearings in the bearing-block 10 and held adjustably in position by means of set-screws 12; the feet 13 extending forwardly from the lower ends of the legs; the bearing-block 14 slidingly mounted upon the legs; the central portion of said bearing-block being offset backwardly to form the rectangular housing 15; the operating-bar 22 slidingly mounted in the bearing-block 9 and connected to the bearing-block 14; the needle-holder 16 pivotally mounted in said housing and adapted to carry a needle; an expansive coil-spring 19 inserted against the rear face of the bearing-block; and a set-screw 20 inserted through the coil-spring 19 through a large opening in the bearing-block 14 and screw-seated in the needle-holder 16 at a point above the pivot; the point of the set-screw being adapted to engage the needle and hold the needle in the needle-holder; the tension of the spring being exerted to throw the upper end of the needle-holder backwardly, thereby throwing the point of the needle forwardly; substantially as specified.

2. In an embroidery-needle: a tubular carrying-handle; legs extending downwardly from the carrying-handle; the bearing-block 14 slidingly mounted upon the legs; the central portion of the bearing-block being offset backwardly to form a housing; the needle-holder 16 mounted in the housing upon a pivot and adapted to receive the needle; an expansive coil-spring inserted against the rear face of the housing; a set-screw inserted through the spring and through a large opening in the housing and screw-seated in the needle-holder at a point above the pivot to hold the needle-holder yieldingly in an inclined position; an operating-bar slidingly mounted in the handle; the loop 24 extending forwardly from the lower end of the bearing-block 14; the lower end of the operating-bar being slidingly mounted in the loop; stops to limit the motion of the operating-bar in the loop; and means of regulating the stroke of the operating-bar through the carrying-handle; substantially as specified.

3. In an embroidery-needle: a tubular carrying-handle; legs extending downwardly from the carrying-handle; the bearing-block 14 slidingly mounted upon the legs; the central portion of the bearing-block being offset backwardly to form a housing; the needle-holder 16 mounted in the housing upon a pivot and adapted to receive the needle; an expansive coil-spring inserted against the rear face of the housing; a set-screw inserted through the spring and through a large opening in the housing and screw-seated in the needle-holder at a point above the pivot to hold the needle-holder yielding in an inclined position; an operating-bar slidingly mounted in the handle; the loop 24 extending forwardly from the lower end of the bearing-block 14; the lower end of the operating-bar being slidingly mounted in the loop; stops to limit the motion of the operating-bar in the loop; and means of regulating the stroke of the operating-bar through the carrying-handle; there being eyes 32, 33 and 34 so that when the thread is passed through said eyes the loop 24 will engage the thread between the eyes 33 and 34 to alternately grip and release the thread as the operating-handle is moved up and down.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

ISIDORE MAYER.

Witnesses:

ALFRED A. EICKS,  
F. C. CRISLER.