(No Model.)

G. W. RAYMOND.

NEEDLE AND NEEDLE FILLING MACHINE.

No. 588,836. Patented Aug. 24, 1897.

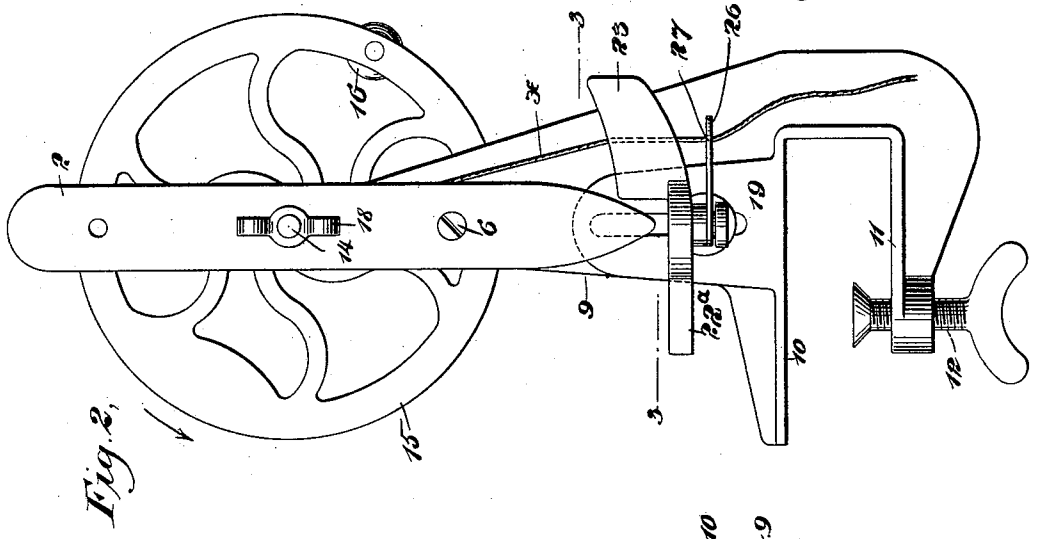


Fig. 2.

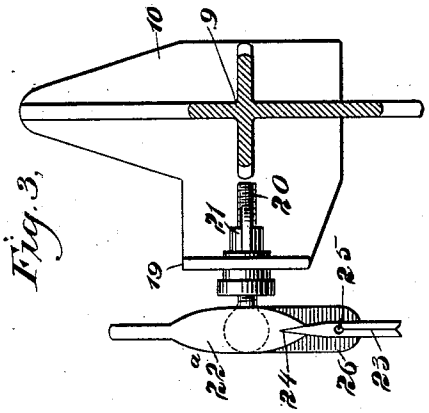


Fig. 3.

Fig. 1.

Fig. 4.

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GEORGE W. RAYMOND, OF WARRENTON, OREGON.

NEEDLE AND NEEDLE-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 588,836, dated August 24, 1897.

Application filed December 23, 1896. Serial No. 616,799. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. RAYMOND, of Warrenton, in the county of Clatsop and State of Oregon, have invented a new and Improved Needle and Needle-Filling Machine, of which the following is a full, clear, and exact description.

This invention relates to needles employed in knitting fish-nets and to machines for winding twine on the same.

The objects are, first, to provide a needle that will be strong and durable and having means by which the space between its points may be regulated, and, second, to provide a winding-machine of comparatively simple construction, easy to operate, and of comparatively slight cost.

I will describe a needle and a winding-machine embodying my invention and then point out the novel features in the appended claims.

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

Figure 1 is a side elevation of a machine and needle embodying my invention. Fig. 2 is a front elevation thereof. Fig. 3 is a section on the line 3 3 of Fig. 2, and Fig. 4 is a transverse section of the needle.

The needle comprises a body portion 1 and opposite side flanges 2. At one end the flanges 2 are separated, but at the opposite end the flanges terminate in points or jaws 3, which have a spring yielding engagement at the point. The body portion 1 of the needle at the end near the jaws or points is longitudinally slit or kerfed, as at 4. This slit or kerf terminates in an eye 5, through which the end of the twine may be inserted preliminary to the winding. This slit or kerf 4 allows for the adjustment of the space between the ends of the points, and to cause this adjustment of the tension I employ a screw 6, which passes through the body portion and across the slit or kerf.

The jaws or points 3 for a portion of their length, say between 7 and 8, are made quite heavy and non-resilient, so that the points will not be spread apart by the twine wound upon the needle. The winding generally terminates at about the point 8. Below the point 8 the jaws or points are made resilient, so as to spring apart sufficiently to allow the outlet of the twine. As before stated, this outlet may be adjusted as required by means of the screw 6.

The winding-machine comprises a post 9, having at its lower end jaws 10 11, adapted to engage, respectively, with the upper and lower sides of a board or similar support, and a clamping-screw 12, passing through the jaw 11, is designed to clamp the machine in place. The upper end of the post 9 is provided with bearings 13, through which a shaft 14 extends. At one end this shaft 14 is provided with a balance-wheel 15, having a crank-handle 16. The opposite end of the shaft 14 is designed to pass through a hole in the needle, and upon this end is secured a plate 17, having its opposite edges extended forward to engage the edges of one of the flanges 2 of the needle, so as to prevent the needle from rotating relatively to the shaft. The outer portion of this extended end is screw-threaded, and this screw-thread is engaged by a thumb-nut 18, designed to clamp the needle against the plate 17.

On the lower portion of the post 9 is an upwardly-extended plate 19, provided with a vertical slot, as plainly shown in Fig. 2. Adjustable in this slot is a bolt 20, provided with a screw-thread engaged by a thumb-nut 21, by means of which the bolt may be secured as adjusted on the plate 19. At the outer side of the plate 19 the bolt 20 is provided with an adjustable collar 22.

On the outer end of the bolt 20 is mounted a shoe 22^a, and extended upwardly and forwardly from this shoe 22^a is a spreader-plate 23. At its end, connecting with the shoe 22^a, the plate 23 is beveled to a point, as indicated at 24, and outward from this beveled portion the spreader-plate is provided with a vertical eye 25, and preferably the plate will be split from the eye 25 outward, so that the twine may be easily inserted by pressing it between the two yielding parts. Mounted on the bolt 20, below the spreader 23, is a guide-plate 26, having an eye 27 in line with the eye 25 and through which the net-twine is designed to pass.

In operation the needle will be placed upon

the machine, as plainly indicated in the drawings. Then after passing the end of the twine *x* through the eyes 27, 25, and 5 the shaft 14 must be rotated in the direction indicated by the arrow in Fig. 2. As the needle revolves and engages with the spreader-plate 23 the pointed end 24 thereof will spread the jaws or points 3 of the needle so that the twine may pass between the same.

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

1. A fish-net needle, comprising a body portion having jaws or points at one end, and means for regulating the space between said jaws or points, substantially as specified.

2. A fish-net needle, comprising a body portion having converging jaws or points at one end, the said body portion having a slit or kerf extended longitudinally at its jaw or point end, and a screw passing across said slit or kerf, for adjusting the space between the points, substantially as specified.

3. A fish-net needle, comprising a body portion longitudinally slitted at one end, an adjusting-screw passing across said slit, and converging jaws extended from the body portion at the slitted end, the said jaws being non-resilient for a portion of their length and resilient for the remainder of their length, substantially as specified.

4. A winding-machine for a fish-net needle, comprising a rotary shaft, means for securing a needle on said shaft, and a spreader-plate designed to spread the jaws or points of a needle, the said spreader-plate having an eye for the passage of twine, substantially as specified.

5. A needle-winding machine, comprising a post, means for clamping said post to a support, a rotary shaft having bearings on said post, a needle-clamping device on one end of said shaft, a vertical plate secured to the lower portion of said post, a shoe supported on said plate, a spreader-plate extended upwardly and forwardly from said shoe, the end of said spreader-plate connecting with the said shoe being beveled on its opposite sides, the said spreader-plate being provided with an eye for the passage of twine, and a guide-plate below the spreader-plate, substantially as specified.

6. A needle-winding machine, comprising a post adapted to be secured to a support, a rotary shaft on said post, a clamping device on one end of said shaft for securing the needle in place, a vertically-slotted plate on the lower portion of said post, a bolt passing through said post, means for clamping the bolt as adjusted on the plate, a shoe-plate on the outer end of said bolt, a spreader-plate attached to the forward end of said shoe-plate and having a vertical eye for the passage of twine, and also being slitted from the eye outward, and a guide-plate supported on the bolt below the spreader-plate and provided with an eye for the passage of twine, substantially as specified.

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