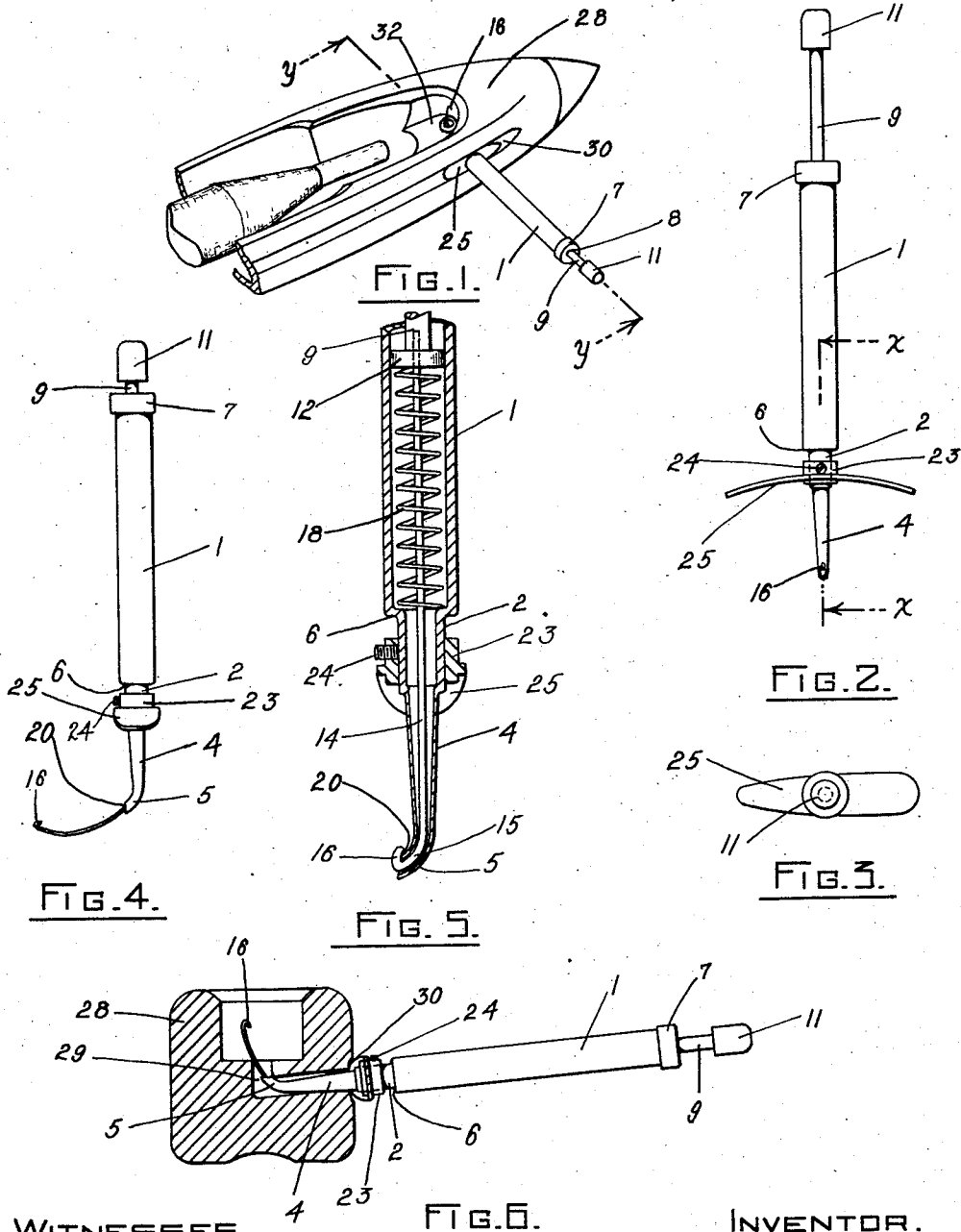


J. ANDERSON.
SHUTTLE THREADER.
APPLICATION FILED JUNE 9, 1911.

1,009,623.

Patented Nov. 21, 1911.



WITNESSES.

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FIG. 6.

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JOSEPH ANDERSON, OF PROVIDENCE, RHODE ISLAND.

SHUTTLE-THREADER.

1,009,623.

Specification of Letters Patent. Patented Nov. 21, 1911.

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To all whom it may concern:

Be it known that I, JOSEPH ANDERSON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Shuttle-Threaders, of which the following is a specification.

My invention relates to that class of threading devices which are detached from the shuttle and manipulated by the operator.

The essential objects of my invention are to provide a facile and certain engagement of the thread preparatory to drawing the same through the shuttle eye; to enable the performance of the threading operation without mutilation or abrasion of the thread; to insure a precise location of the threading device relatively to the shuttle eye; and to insure such a grip upon the thread preparatory to the withdrawal of the same through the eye that accidental release is avoided.

Other advantages will be apparent in the following specification.

To the specified ends my invention consists in such novel parts and combinations of parts as fall within the scope of the appended claims.

In the accompanying drawings wherein like reference characters indicate like parts throughout the views,—

Figure 1 is a perspective view of my novel threader in open position engaged in a shuttle which is shown partially broken away, Figs. 2 and 3, side and plan elevations respectively of my threader in closed position, Fig. 4, a side elevation of the same with the parts in open position, Fig. 5, a section on line *x x* of Fig. 2, and Fig. 6, a side elevation of my device open in a shuttle, the latter being shown in a section taken on line *y, y*, of Fig. 1.

Like reference characters indicate like parts throughout the views.

My device comprises a hollow cylindrical body 1 provided preferably but not essentially with an end portion 2 of reduced diameter, which is further extended to form a tapering tubular nose 4, provided with a laterally curved or extended end portion 5. The relatively smaller diameter of the portion 2 of the body forms an internal annular shoulder or seat 6 in the lower portion of the body. The top or outer end of the body may be closed in any convenient man-

ner. In the present instance this closure consists of a cap 7 swaged over the barrel end and provided with a central perforation 8 to admit an operating rod or plunger 9. The cap 7 forms an external annular extension which as will be later pointed out serves as a bearing for the operator's fingers, but any other style of finger bearing may be employed.

The operating rod 9 is provided at its outer end with a head 11 affording a rest for the operator's thumb, and to an inner portion of the rod within the body is fixed a guide plate 12 slidable along the inner face of the body when the rod 9 is reciprocated. Integral with the rod 9, or fixed to the plate 12 is a flexible wire rod 14 provided with a curved end portion 15 to conform with the curve of the nose portion 5 and terminating in a hook 16.

Inside the body 1 is a helical spring 18, one end of which rests against the shoulder 6, and the other end, against the plate 12. This spring presses the rod 14 and its hook 16 toward the outer end of the body, thus forcing the hook 16 snugly against the edge 20 of the nose portion 5, best seen in Fig. 5.

For the purpose of accurately locating my device relatively to the shuttle opening, a centering device is provided. In detail, in the present instance, this consists of a sleeve 23 slidable upon the portion 2 of the body and longitudinally adjustable upon the latter by means of a set screw 24 in the sleeve. Integral with or fixed to the sleeve is an oblong plate 25 which in the present instance is concavo convex, but which is operative if not curved. This plate is intermediate its length connected with the portion 2 and is disposed at a right angle to the plane of the curved portion 5 of the nose.

The operation of my device will now be explained in conjunction with an ordinary shuttle 28 provided with the usual upwardly directed thread eye or aperture 29, and with the usual horizontal groove 30 into which the eye 29 opens. In threading the shuttle, the operator's fingers rest against the shoulder 7 of the body, and his thumb, upon the rod head 11. The nose 4, 5, is inserted into the eye 29 of the shuttle. It is advantageous to be assured that the curved portion 5 of the nose corresponds with the curve or angular direction of the eye to prevent mutilation of the portion 5 of the nose when used

in haste. Therefore while inserting the nose into the shuttle eye the ends of the plate 25 register in the groove 30 of the shuttle. The use of the plate 25 or its equivalent while an advantage is not essential to the operation of my device. With the parts positioned as described the rod 9 is inwardly pressed whereby the wire 14 advances upwardly through the nose 4 and through the eye 29 so that the hook 16 is elevated above the floor of the shuttle. The strand to be threaded is looped or laid upon the shuttle floor as at 32 over the eye 29 and below the hook. Thereupon pressure upon the rod 9 is by the operator relaxed and the hook in returning engages the looped thread and pulls it down through the eye until it pinches the latter against the end edge 20 of the portion 5 of the nose, where the thread is tightly held by virtue of the spring 18 until the nose is withdrawn from the eye.

What I claim is,—

1. In a device of the type set forth, the combination with the body, of a curved nose upon the body, a rod slidably mounted in the body, a second rod curved to conform with the curvature of the nose carried by the

plunger and extending through the nose, a hook upon the second rod extending over the end of the nose, means in the body for forcing the hook into engagement with the end of the nose, and a centering device upon said body.

2. In a device of the type set forth, the combination with the body, of a nose upon the end of the body provided with a curved end portion, a plate attached to the body and disposed at right angles to plane of the curved portion of the nose, an operating rod slidably mounted in the body and having a curved end portion conforming to said nose, a second rod carried by the first rod and extending through the nose, a hook upon the second rod adapted to overlap the end of the curved portion of the nose, and a spring in the body acting upon the rods to force the hook into engagement with the nose.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOSEPH ANDERSON.

Witnesses:

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GEORGE H. McLAUGHLIN.