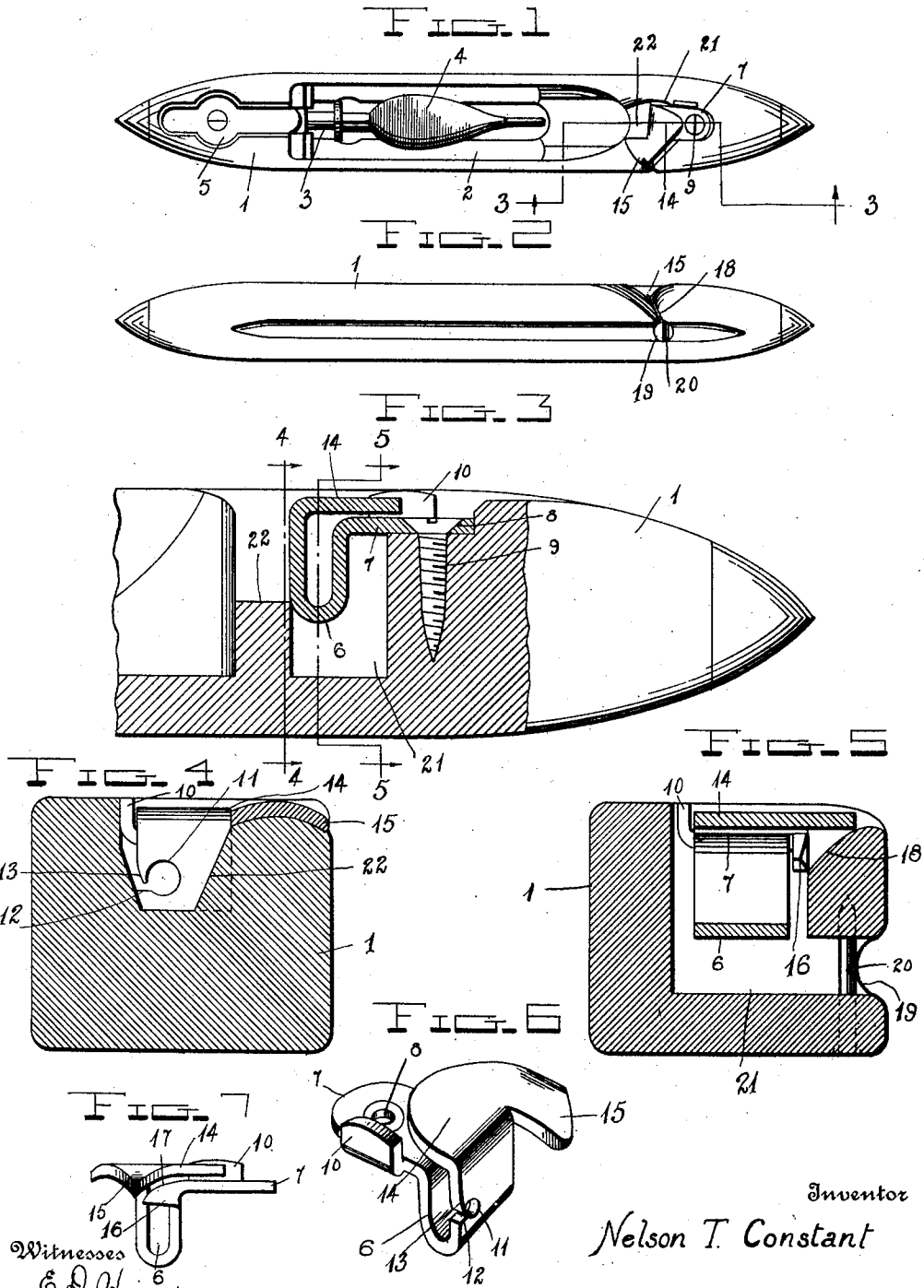


N. T. CONSTANT.
SHUTTLE.

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SHUTTLE.

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To all whom it may concern:

Be it known that I, NELSON T. CONSTANT, a citizen of the United States, residing at Danielson, in the county of Windham and State of Connecticut, have invented certain new and useful Improvements in Shuttles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in shuttles.

One object of the invention is to provide a shuttle having an improved means whereby the same may be threaded by hand thus obviating the unsanitary and unclean method of sucking the thread through the eye of the shuttle.

Another object is to provide a thread receiving mechanism for shuttles which will be simple, strong, durable and inexpensive in construction, efficient and reliable in operation and well adapted to the purpose for which it is designed.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a plan view of my improved shuttle; Fig. 2 is a side view thereof; Fig. 3 is an enlarged longitudinal sectional view through one end of the shuttle and through the thread receiving mechanism therein taken on the line 3—3 of Fig. 1; Fig. 4 is a cross sectional view taken on the line 4—4 of Fig. 3; Fig. 5 is a similar view taken on the line 5—5 of Fig. 3; Fig. 6 is a detail perspective view of the thread receiving mechanism removed from the shuttle; Fig. 7 is a side view of the thread receiving mechanism illustrating the opposite side thereof from that shown in Fig. 6.

Referring more particularly to the drawings, 1 denotes the body of my improved shuttle which may be of the usual or any preferred construction and which is provided with the usual bobbin recess 2 and spindle 3 with which is engaged the bobbin 4. The spindle 3 is secured at its outer end in one end of the shuttle by a suitable fastening mechanism 5 which, together with the other parts hereinbefore enumerated may be of any suitable construction and do not

form a part of the present application which relates to the eye or thread receiving mechanism of the shuttle.

The thread receiving mechanism of the shuttle is preferably formed from a single piece or plate of metal which is bent intermediate its ends to form a depending transversely disposed thread receiving loop 6 on the upper end of the outer side of which the plate or piece of metal is bent outwardly at right angles to form an attaching member 7 having therein a screw hole 8 to receive a fastening screw 9 whereby the thread receiving mechanism is fastened in position in the end of the shuttle. On one edge of the attaching member 7 is an upwardly projecting thread guiding lug 10 which assists in guiding the thread to its position in the eye or thread receiving mechanism as will be hereinafter more fully described.

In the lower portion of the inner side of the loop 6 is formed a threaded guide aperture 11 which has connected with its lower portion a short passage 12 opening through the adjacent edge of the inner side of the loop as shown. The edge of the inner side of the loop 6 immediately above the passage 12 is beveled inwardly to a slight extent as shown at 13 whereby the thread is guided into the passage 12 and through the latter into the aperture 11 in the loop.

On the upper end of the inner side of the loop 6 is a right angular outwardly or forwardly extending guide plate 14 which projects over and is spaced a slight distance above the upper end of the outer side of the loop and the inner portion of the attaching member 7. The guide plate 14 is extended laterally beyond one side of the loop 6 and forms a thread guiding member 15. The thread guiding extension of the guide plate 14 is of substantially triangular shape and has its outer end or apex curved downwardly to a slight extent to conform to the curvature of the adjacent side edge or corner of the shuttle with which the inner edge of said guide member is engaged.

On the edge of the outer side of the loop 6 at the upper end of said side and spaced a slight distance below the inner side of the guide member 15 is a thread guiding lug 16 which extends transversely across the upper portion of the adjacent side of the loop 6 and has its upper edge curved or rounded as at 17 and spaced a slight distance below the inner side of the thread guiding member

15 whereby the thread after being passed beneath the guide plate 4 is guided or directed beneath the guide member 15 and between the end of the lug 16 and the adjacent end of the loop 6 and from thence down into the lower portion of the loop. The end of the thread is also directed by the curved upper edge of the lug 16 and the adjacent edge of the thread guiding plate 15 into a slot 18 in the adjacent side of the shuttle, said slot communicating at its lower end with an eye 19 in said side of the shuttle through which the thread passes. Inserted through the side of the shuttle at each side of the eye 19 and forming the side walls of the latter are vertically disposed cylindrical rods or pins 20 between which the thread passes in leaving the eye and which provide a smooth round surface over which the thread passes and which prevent the thread from wearing and causes the same to pull freely from the shuttle.

The threading mechanism when constructed as herein shown and described is adapted to be inserted in a recess 21 formed in one end of the shuttle to receive the same and which communicates with the recess 2 in the body of the shuttle through a notch 22 as shown.

In threading my improved shuttle the end of the thread from the bobbin is engaged between the inner edge of the guard plate 14 and the adjacent side of the recess 21 and is directed by the lug 10 beneath said guard plate, down between the edge of the inner side of the loop 6 through the passage 12 and into the aperture 11 in said inner side of the loop. The end of the thread is then carried across between the outer edge of the guard plate and the guard member 15 and the adjacent wall of the recess 21 between the curved upper edge of the guard lug 16 and the lower side of the guiding member 15 and from thence the thread is brought down into the lower portion of the loop 6 and through the slot 18 in the adjacent side of the shuttle and into the eye 19 at the lower end of said slot thereby completing the threading of the shuttle. The thread when thus engaged with the thread receiving mechanism will be effectually held in operative engagement with the end of the shuttle.

By constructing and arranging the parts of the thread receiving mechanism as herein shown and described it will be seen that the thread is readily engaged with said mechanism by the hand of the operator, thus obviating the necessity of sucking or blowing the thread through the eye or thread receiving mechanism of the shuttle.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention, what I claim is:

A thread receiving mechanism for shuttles comprising a plate bent intermediate its ends to form a thread receiving loop having in one side a thread receiving aperture and a passage to connect said aperture with one edge of the loop, an attaching member formed on the upper end of the outer side of the loop and adapted to receive a fastening device whereby the thread receiving mechanism is fastened in the shuttle, a thread guiding lug on said attaching member, a guard plate formed on the upper end of the side of said loop having said thread receiving aperture, said guard plate projecting over and a slight distance above the upper end of the opposite side of the loop, a thread guiding member formed on and projecting laterally from the outer edge of said guard plate, and a thread guiding lug formed on the adjacent end of said loop immediately below and spaced a slight distance from the lower side of said thread guiding member whereby the thread when passed beneath said guard plate and thread guiding member is directed downwardly into said loop and into the eye of the shuttle.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

NELSON T. CONSTANT.

Witnesses:

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