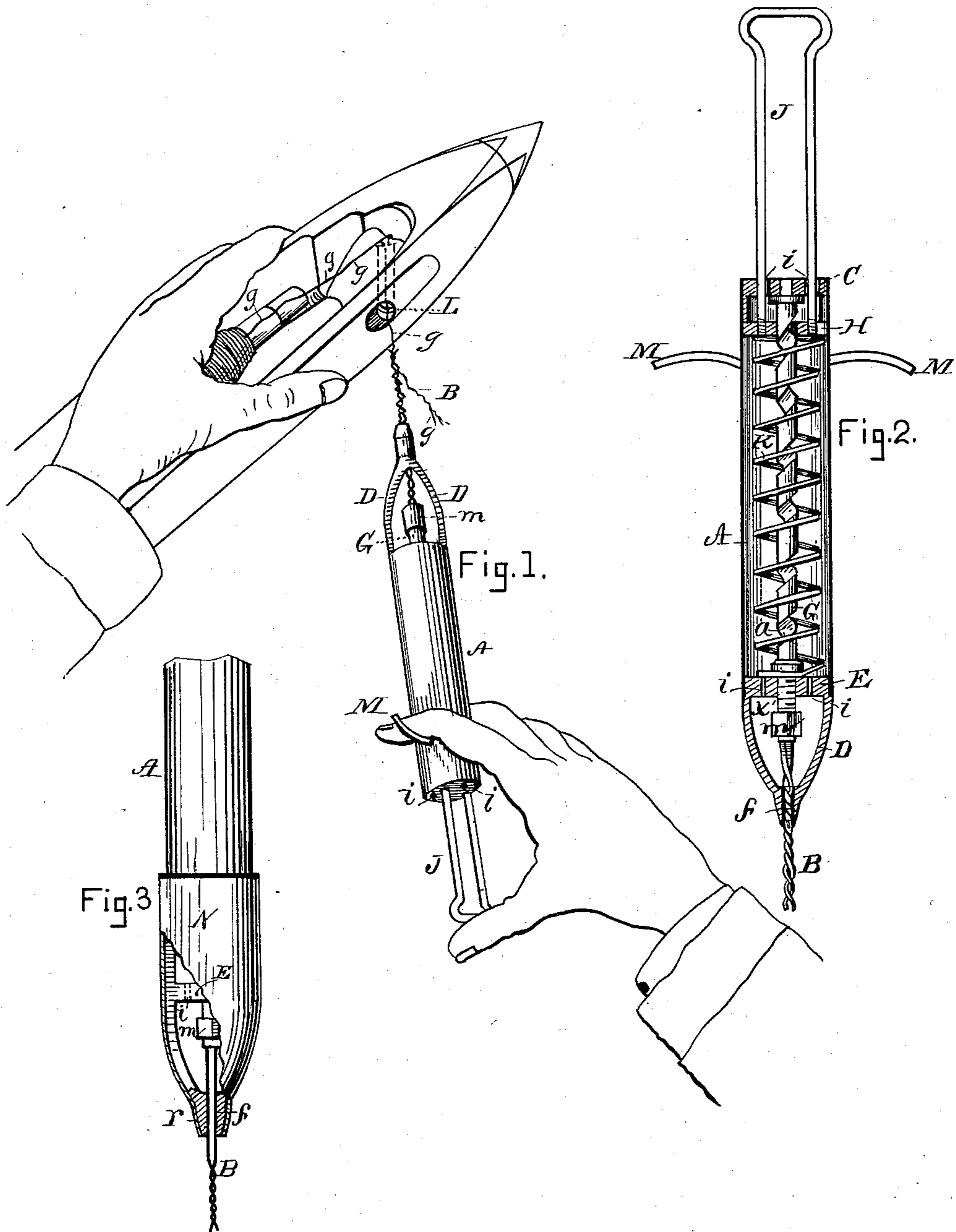


(No Model.)

W. E. N. POTTER.
LOOM SHUTTLE THREADER.

No. 286,731.

Patented Oct. 16, 1883.



Witnesses:
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LOOM-SHUTTLE THREADER.

SPECIFICATION forming part of Letters Patent No. 286,731, dated October 16, 1883.

Application filed March 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. N. POTTER, of Malden, in the county of Middlesex, State of Massachusetts, have invented a certain new and useful Improvement in Loom-Shuttle Threaders, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view, representing my improved threader in use; Fig. 2, a vertical longitudinal section of my threader; and Fig. 3, a sectional view, showing the cap.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to that class of shuttle-threaders which are employed by weavers for threading loom-shuttles; and it consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a more effective device of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation, its extreme simplicity rendering an elaborate description unnecessary.

In the drawings, A represents the body of the threader, and B the twister or screw. The body is cylindrical in form, being hollow, and preferably composed of metal, and is provided at one of its ends with the head C and at the other with the head E. An opening, *a*, is formed in the head E, in which and the head C the spindle G is centrally journaled. The spindle is spirally grooved, as seen at *a*, and fitted to slide thereon. Within the body there is a nut or follower, H, provided with a bent rod, which passes loosely through corresponding holes in the head C and forms the handle J. A coiled spring, K, is disposed around the spindle, and acts expansively to force the nut H toward the head C, or to separate it from the head E. Projecting from the

forward end of the body there are two curved arms, D, which are joined at their outer ends, and provided with the hole *f*. The screw B is composed of two wires twisted together and passed through the hole *f*, their inner ends being secured to the spindle by the nut *m*, the nut being chambered to receive the inner ends of the wires, which are bent down in the chamber, (not shown;) but the wires may be secured to the spindle in any other suitable way, if preferred. Projecting from each side of the body A, at the end nearest the handle J, there is a curved stud or holder, M, as best seen in Fig. 2.

In the use of my improvement the shuttle is taken in the left hand, as shown in Fig. 1, and held with its eye L at the side. The body of the threader is then taken in the right hand, the thumb being placed on the outer end of the handle J, and the first and second fingers astride of the body in such a manner as to grasp the holders M. The handle is then forced in to its fullest extent, pushing the nut H toward the head E, compressing the spring K, and causing the spindle G to rotate. When the handle has been pushed in as far as possible, the twister or screw B is inserted in the eye of the shuttle and brought into contact with the thread *g*. The handle is then released, permitting the spring K to force the nut H in the direction of the head C, thereby causing the spindle and twister to be rapidly revolved. The twister being in contact with the thread in the eye of the shuttle, as the twister revolves, the thread becomes ensnared therewith or twisted around the same, and may then be easily withdrawn and the shuttle threaded in a manner which will be readily obvious without a more explicit description.

In order to insure the engagement of the thread and twister in the eye of the shuttle, I sometimes make use of the sheath N, which is passed over the arms D and fits closely around the body A, as shown in Fig. 3. The sheath is provided with a conical nipple, *r*, through which the twister passes, the nipple being shaped to fit closely in the outer portion of the eye of the shuttle when the twister is inserted. The heads C E are provided with

vent-holes *i*, to permit the air on either side of the nut or follower H to enter or escape from the body A as the nut is moved back and forth therein.

5 In the use of the threader with the sheath attached, the nut is forced down and the twister inserted in the eye of the shuttle, as hereinbefore described. The nipple *r* being in the outer portion of the eye, when the follower or
10 nut H is released and forced back by the spring K, a vacuum will be formed between the follower and head E, and to supply or fill this vacuum the air will be drawn through the eye of the shuttle and pass through the nipple *r*, hole
15 *f*, and holes *i* in the head E into the body of the threader, the current of air thus formed causing the thread to be drawn into and through the eye of the shuttle, and brought into contact with the rotating twister in substantially
20 the same manner, so far as creating an outward current of air in the eye is concerned, that the end of the thread is "sucked" through the eye of the shuttle by the mouth of the weaver when the threader is not used.

25 For very heavy yarns the cap is not required; but for the lighter numbers, which are not readily passed through the eye of the shuttle, it is preferable to use it.

30 I do not confine myself to the use of the arms D or holders M, as these may be omitted, if desired, or to constructing the twister of two wires twisted together, as shown, as one

or more may be employed and perform substantially the same functions.

Having thus explained my invention, what I claim is—

1. The improved shuttle-threader herein described, the same consisting of the body A, having the heads C E, the nut or follower H, provided with the handle J, and the spindle 40 G, provided with the groove *a*, the spring K, and twister B, constructed, combined, and arranged to operate substantially as set forth.

2. The sheath N, in combination with the body A, twister B, and operative mechanism, 45 substantially as described.

3. A twister adapted to enter the eye of the shuttle, in combination with means for rotating said twister, substantially as set forth.

4. A twister adapted to enter the eye of the 50 shuttle, in combination with means for rotating said twister, and with means for creating an outward current of air through said eye to bring the thread into contact with the twister, substantially as stated. 55

5. The twister B, composed of a twisted wire or wires, in combination with the spindle G and means for rotating said spindle, substantially as described.

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