

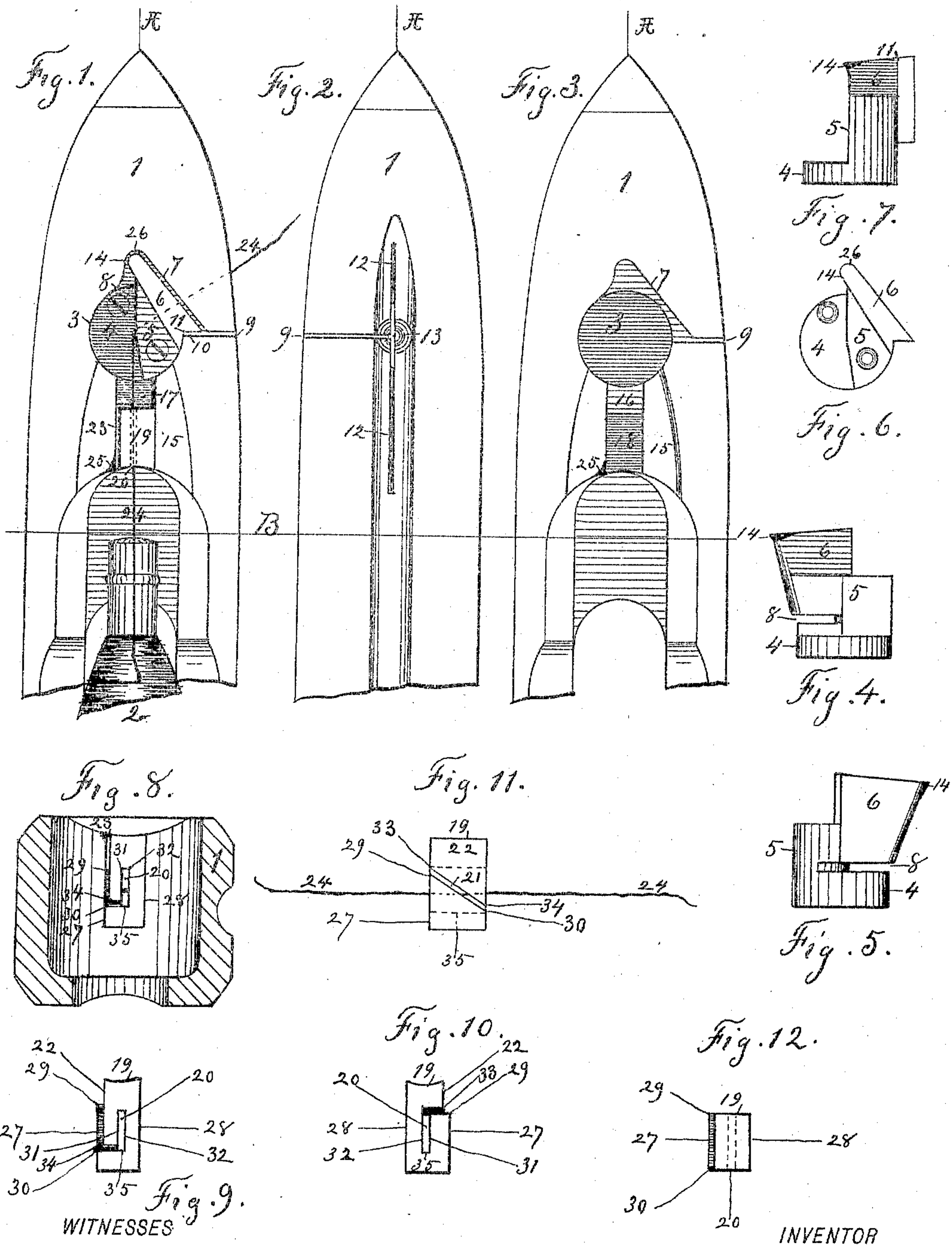
No. 780,231.

PATENTED JAN. 17, 1905.

C. E. SACKETT.
SELF THREADING LOOM SHUTTLE.

APPLICATION FILED MAR. 31, 1904.

MODEL.



Witnesses
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SELF-THREADING LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 780,231, dated January 17, 1905.

Application filed March 31, 1904. Serial No. 200,927. (Model.)

To all whom it may concern:

Be it known that I, CHARLES E. SACKETT, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Loom-Shuttle Hand-Threading with Self-Controlling Guide-Slot, of which the following is a specification.

This invention is an improvement on the invention for a similar purpose filed by me on the 14th day of March, 1904, Serial No. 198,006, which improvements are fully described herein and shown on the accompanying drawings, in which—

Figure 1 is a part-length plan view of the threading end of a loom-shuttle; Fig. 2, a side elevation of the same; Fig. 3, a plan view of the wood shuttle-body, its interior mechanism being removed. Fig. 4 is a side elevation of the face of the threading-block on the axial line A removed from the shuttle; Fig. 5, a reverse view of the same; Fig. 6, a plan view of the same; Fig. 7, a vertical rear elevation of the same. Fig. 8 is a vertical sectional elevation of the front end of the bobbin-chamber on cross-section line B; Fig. 9, a view of the rear end of a neck-block removed from the shuttle, which is shown in position in Fig. 8. Fig. 10 is a view of the front end of the same block. Fig. 11 is a side view; Fig. 12, a plan view.

In all the figures like numerals designate like parts.

1 is the usual wood body of a loom-shuttle; 2, the end of a bobbin projecting from the bobbin-chamber; 3, the thread-well; 4, a circular base-plate screwed to the bottom of the thread-well; 5, a block rising from the base-plate part way to the top face of the shuttle and having a vertical face on the axial line A; 6, a threading-section rising to the surface of the shuttle.

Parts 4 5 6 are preferably made in one piece, as shown in the detail Figs. 4 to 7.

7 is a thread-passage formed by the wood body of the shuttle being spaced a short distance from the outside face and point of the threading-section; 8, a lateral passage in the

block communicating with passage 7 at its bottom; 9, an intersecting passage cut substantially at right angles with the longitudinal axial line A through the shuttle side; 10, a continuation of this passage abutting against an angle 11 in the threading-section to form a blind pocket, having the shuttle-body as one of the side walls of said pocket, the threading-block section forming the other side wall and the blind end.

12 (see Fig. 3) is a lateral longitudinal slot cut through the shuttle-body substantially parallel with the axial line A, in which the vertical slot 9 terminates and which registers with the lateral passage 8 in the block-section.

13 is a shallow circular indentation removing the sharp corners of the intersecting passages; 14, a lip on the inside face of the threading-section.

15 is the usual coved neck of an ordinary shuttle-body constructed between the bobbin-chamber and the thread-well. In this invention (see Figs. 1 and 3) this coved neck is lengthened and recessed longitudinally for two reasons: first, to provide space for a separable neck-block, and, second, to provide a space in advance of it for the insertion of a piece of felt, flannel, or the like, over which the thread must drag before reaching the threading mechanism, which allows for the form of thread tension most generally in use. The neck-block may be located at any point in the neck-recess best calculated to control the thread.

In Fig. 3 the shuttle-body is shown recessed through the neck for these purposes, 16 being the space apportioned for the piece of felt shown in Fig. 1 at 17. The recess 18 of Fig. 3 is for the insertion of the separable neck-block 19, which will now be described. (See Fig. 8 and detail Figs. 9 to 12.) It may be made of metal or wood. Its top plan is preferably quadrilateral in shape. (See Fig. 12.) It is made to fit tightly into the recess 18 laterally and to be there secured by screws, nails, or any device best fitted for the purpose. Its two side faces 27 and 28 join tightly to the wood of the shuttle-body, except at that

portion of side 27 which is recessed from its top face downward to the diagonal points 29 and 30 to form the spaced section 22, which when the block is in position, as in Fig. 8, leaves a narrow vertical passage between it and the shuttle-body, forming at its surface the thread-entrance passage 23. The central portion of the neck-block is pierced longitudinally by a narrow vertical passage 20, closed at top and bottom and forming two perpendicular central side walls 31 and 32. Side wall 31 is cut through diagonally at points 33 and 34 a short distance above the diagonal bed of the spaced section 22, and the beds of both diagonal cuts register with each other. A space 21 is thus left for the entrance of the thread from the side entrance-passage 23 to the perpendicular central slot 20. The thread after entering the central slot diagonally drops to the closed bed 35 of the central slot, (see Figs. 8 to 11,) which is longitudinally parallel with the longitudinal axial line A of the shuttle-body and the run of the thread, which then assumes the thread position shown at 24 in Fig. 11. It is evident that the thread in sweeping up and down the central vertical slot 20 as it unwinds from the bobbin and is drawn rapidly through the neck-block always encounters the diagonal passage at a very narrow section of its length, (see Fig. 11,) while its remaining length in the neck-block is perfectly retained by the high and low triangular sections of side wall 27, and it is impossible for the thread to escape.

The tendency of the thread in all hand-threading shuttles, which necessarily have open passages leading to the delivery-eye, is for the thread in rapidly unwinding from a fixed bobbin to balloon or rise out of the neck of the shuttle and where no necks are used to rise out of the open passages, unless means are used to prevent it, which is the object of this invention.

The operation of threading is simple. The thread from the bobbin is led by hand around the extreme forward point 26 of the threading mechanism and is then pulled down into the delivery-eye. This action also enters the thread by its own volition into the central passage 20 of the neck-block. No attention need be paid to leading it there.

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

1. In a loom-shuttle the combination with the shuttle-body of a threading-block secured in the bottom of the thread-well, having a threading-section rising from it to the surface of the shuttle-body, said section occupying about one-half of the thread-well longitudinally, and having at its surface a rounded forward projecting point with a slight lip on its inner side, under and around which the weft-thread is led, said threading-section being pierced about at the axial center of the shut-

tle-body with a lateral slot penetrating from its forward face to about its center, said threading-section being spaced on front point and outside face a short distance from the wood body of the shuttle forming a thread-passage which intersects a vertical passage cut through the shuttle side, and terminates in a long lateral and longitudinal passage cut in the shuttle-body, which registers with the lateral passage aforesaid penetrating said threading-block midway toward its axial center, substantially as described and shown.

2. In a loom-shuttle the combination with the shuttle-body having a thread-well, and a lateral longitudinal passage, and a vertical passage through the side thereof, of a threading-block having a face arranged at an angle to the longitudinal axis, and spaced from the side of the thread-well, forming an inclined threading-passage communicating with the vertical passage, the vertical passage being extended inward past its point of intersection with the inclined passage to form a blind pocket substantially as described and shown.

3. In a loom-shuttle the combination with a shuttle-body having a thread-well, a threading mechanism, and a bobbin-chamber, of an independent separable thread-guide neck-block, arranged to leave a space between said block and the threading mechanism substantially as described and shown.

4. In a loom-shuttle the combination with the shuttle-body having a thread-well, a bobbin-chamber, and a communicating neck-passage between them, of a separable neck-block inserted in said passage, and means for producing tension on the thread arranged between said separable neck-block and the thread-well, substantially as described and shown.

5. In a loom-shuttle the combination with a shuttle-body having a threading mechanism and a bobbin-chamber, of a thread-guide arranged between them, consisting of a narrow vertical passage having perpendicular side walls closed at top and bottom, and a communicating passage from the surface of the shuttle-body entering said vertical passage by means of a slot in one of its side walls, bisecting said wall diagonally from front top to rear bottom corner substantially as described and shown.

6. In a loom-shuttle the combination with a shuttle-body having a thread-well, a threading mechanism and a bobbin-chamber, of a thread-guide block arranged between the threading mechanism and the bobbin-chamber, said guide-block having a central vertical passage, with top, bottom, and side walls, longitudinally parallel with the longitudinal axial center of the shuttle-body, and a diagonal passage through one of the side walls of said block crossing the parallel central passage, and giving access to it from near the top front, to near the bottom rear of the central passage

through said block, substantially as described and shown.

7. In a loom-shuttle the combination with a shuttle-body having a thread-well, a bobbin-chamber and a communicating passage between them of a neck-block arranged in said passage, one of its longitudinal sides abutting closely on the shuttle-body, its other longitudinal side recessed vertically from the shuttle-body surface to a diagonal bed spaced between the top and bottom of said block, said bed registering with the bed of a diagonal passage cut through the side of the block and communicating with a central vertical slot cut longitudinally through said block, said central vertical slot having top, bottom, and side walls substantially parallel with the longitudinal axial center of the shuttle-body, its top wall meeting the diagonal passage near its front top corner, its bottom wall meeting the diagonal passage near its rear bottom corner substantially as described and shown.

8. In a loom-shuttle the combination with a shuttle-body having a threading mechanism and a bobbin-chamber of a thread-guide block

arranged between them, said guide-block having a central, vertical longitudinal passage formed by two parallel side walls spaced near together, said passage having its walls closed at top, bottom, and one side, the other side wall being bisected diagonally by a passage communicating with the shuttle-surface, the bisection of said side wall being from near top front to near bottom rear of said guide-block, thereby creating a triangular hanging side wall and a triangular rising side wall spaced diagonally a short distance apart, the top and bottom walls of said vertical passage being substantially longitudinally parallel with the forward run of the thread, the diagonal passage crossing the run of the thread, thereby preventing its return into it, substantially as described and shown.

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

CHAS. E. SACKETT.

Witnesses:

THOMAS D. FORNEY,
BRONSON S. BURR.