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J. A. & O. J. PERKINS.

SHUTTLE FOR LOOMS.

APPLICATION FILED JUNE 3, 1907.

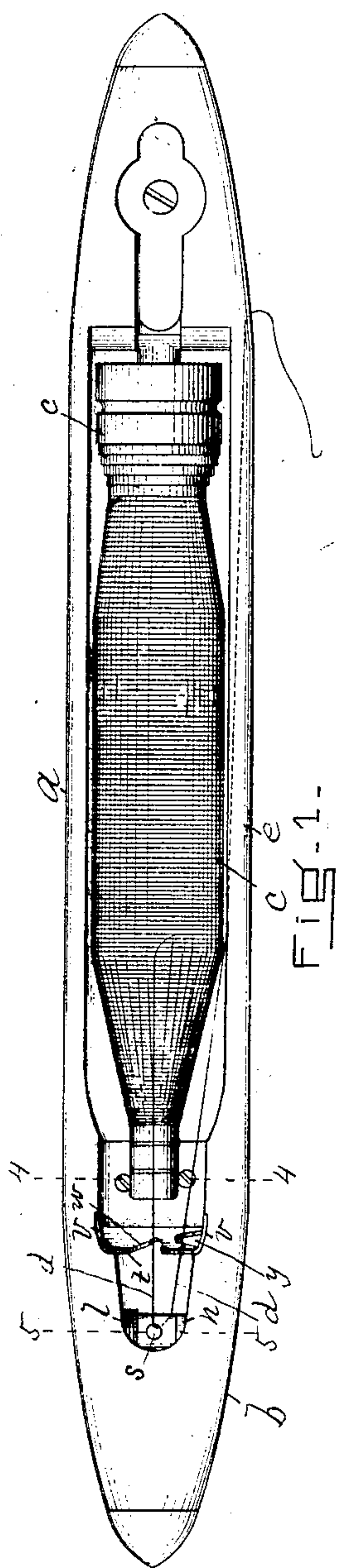


FIG. 1.

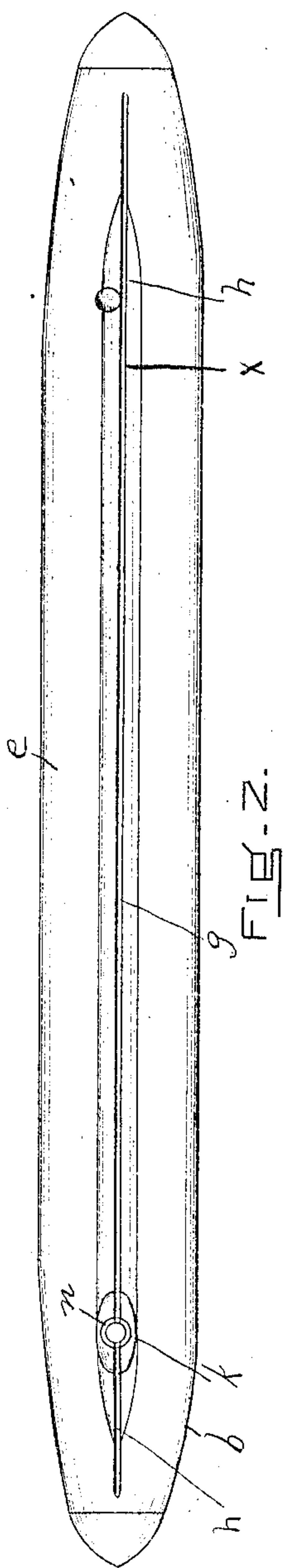


FIG. 2.

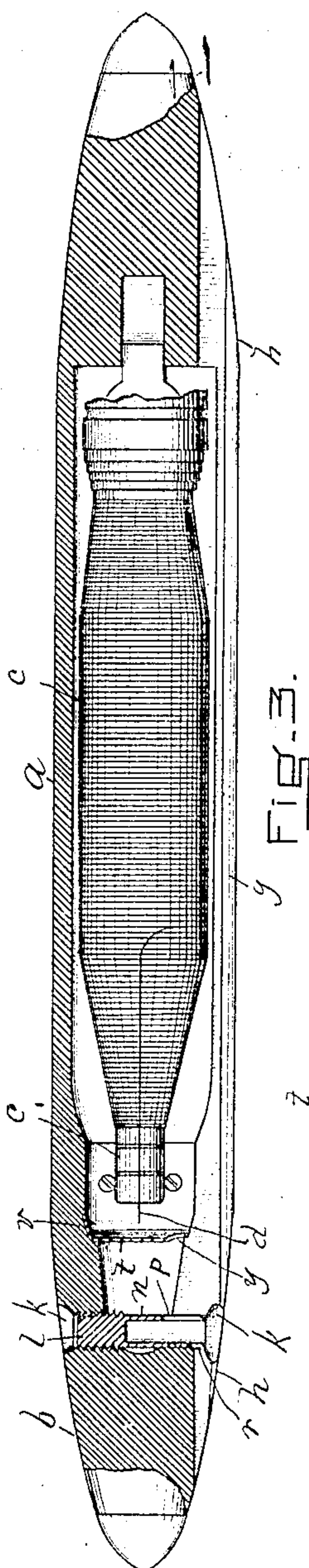


FIG. 3.

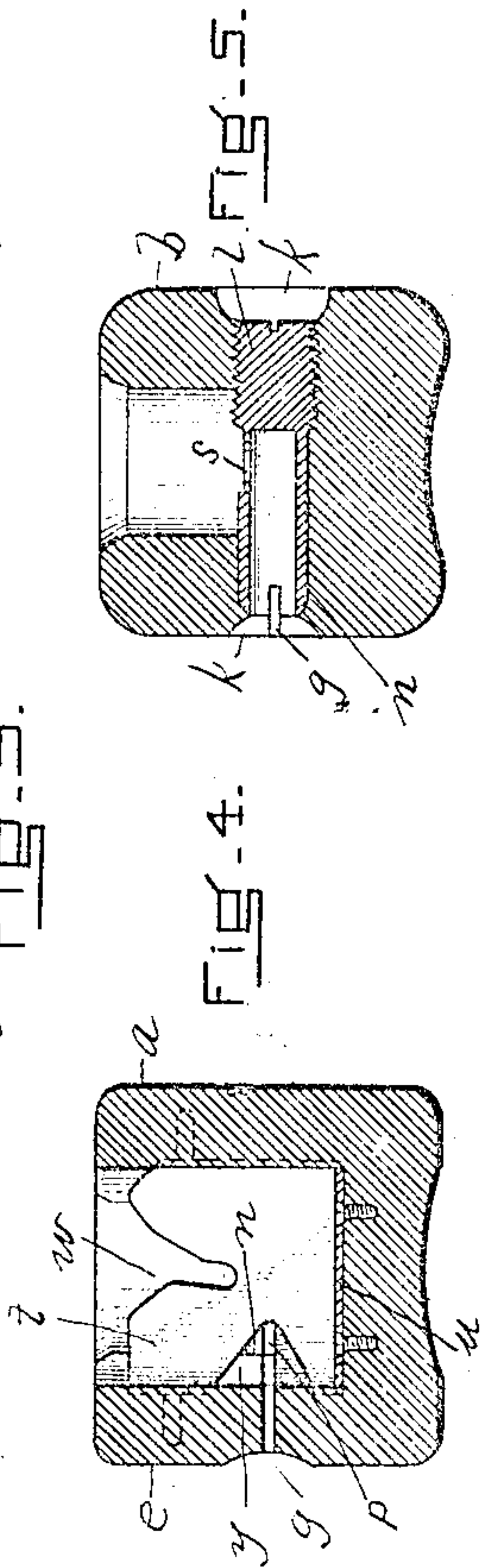


FIG. 4.

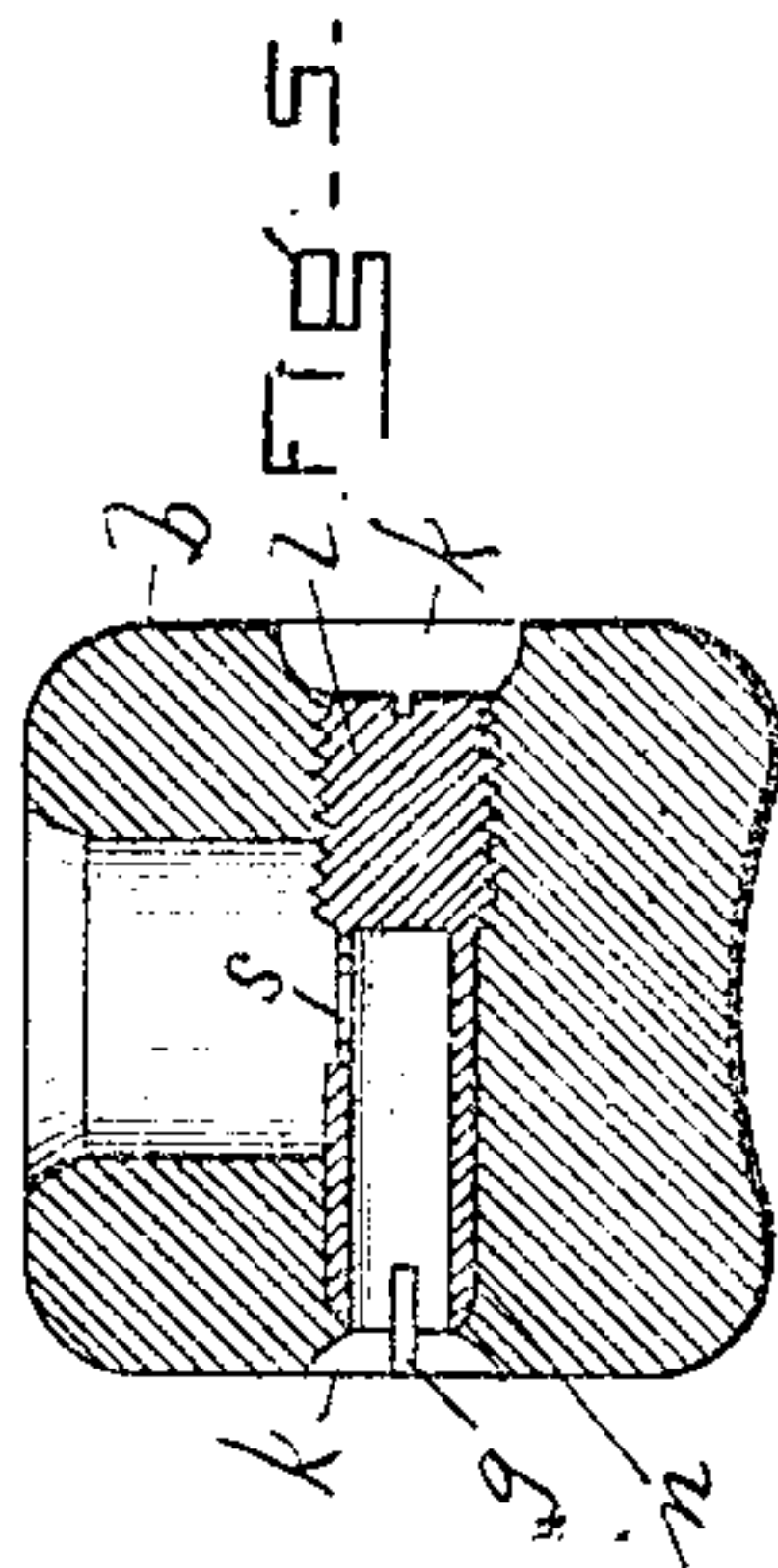


FIG. 5.

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# UNITED STATES PATENT OFFICE.

JOHN A. PERKINS AND ORIN J. PERKINS, OF SALEM, MASSACHUSETTS.

## SHUTTLE FOR LOOMS.

No. 882,267.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed June 3, 1907. Serial No. 376,947.

*To all whom it may concern:*

Be it known that we, JOHN A. PERKINS and ORIN J. PERKINS, both citizens of the United States, residing in Salem, in the  
5 county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Shuttles for Looms, of which the following is a specification.

This invention has for its principal object  
10 to prevent the thread from kinking and snarling as it leaves the shuttle, such kinking and snarling occurring usually during the first part of the return of the shuttle; and another object of the invention is to prevent  
15 bunches on the thread from passing out through the long slot (below described) in said shuttle.

The nature of the invention is fully described below, and illustrated in the accompanying drawings, in which:—

Figure 1 is a plan view of a shuttle embodying our invention. Fig. 2 is a side view of the same, the side shown being that through which the thread leaves the bobbin. Fig. 3 is a horizontal section of the shuttle taken through the longitudinal slot in one of its side walls. Fig. 4 is a cross section taken on line 4—4, Fig. 1. Fig. 5 is a similar section taken on line 5—5, Fig. 1.

Similar letters of reference indicate corresponding parts.

*a* represents a shuttle of a well known type, *b* being the head thereof. *c* represents the bobbin, and *d* the thread which is leaving it.

35 The side wall *e* of the shuttle, which is the wall through which the thread passes out, is provided with a longitudinal slot *g, h*, located about midway between the top and bottom of the shuttle and parallel with said top and  
40 bottom. This slot extends for nearly the entire length of the shuttle, and for the greater portion of its length, that is, the portion *g* which is opposite the chamber in the shuttle, it extends entirely through said wall,  
45 but the end-portions *h* of this slot at the right of reference letter *x* (Fig. 2) and at the left of the hole *k* (below described) the slot is groove-shaped, as it extends along the solid end-portions of the shuttle, and the depth of  
50 the slot tapers toward its extreme ends, such tapering being produced by the shape of the shuttle. The slot near the head of the shuttle intersects the horizontal hole *k* referred to, said hole containing the eye through  
55 which the thread is drawn out of the shuttle, said eye consisting of a screw comprising a

solid head *l* and hollow barrel or main portion *n* provided with opposite horizontal slots *p* and *r* extending rearward from its outer end. A vertical hole *s* (Figs. 1 and 5) 60 connects the interior of the screw with that of the shuttle when said screw is in the position illustrated in the head of the shuttle. The longer slot *p* faces the bobbin and is substantially on a level with the thread as it 65 leaves the bobbin, and the short slot *r* is opposite and on a level with the slot *p*. Between the end of the bobbin and the screw is a vertical partition *t* provided with flanges *u* and *v* whereby it is screwed to the bottom 70 and sides of the shuttle, said partition being provided at its upper edge with a downwardly extending guiding notch *w*, and at the edge next the wall *e* with the inwardly extending guiding notch *y*. The notch *w* is 75 between the bobbin and the hole *s* and the notch *y* registers with the slot *g*.

The thread *d* passes from the bobbin through the notch *w* into the hole *s* from which it passes into and along the interior of 80 the hollow portion *n* of the eye, and thence through the slot *p* and notch *y* into and out through the longitudinal slot *g, h* in the wall *e* of the shuttle. As the thread passes through this slot *g, h* at a very acute angle so 85 that a considerable portion is in the slot, kinking and snarling after it leaves the eye are effectually prevented. As the thread is drawn along this slot it is kept relatively taut—sufficiently taut to prevent there being 90 enough slack to allow kinking or snarling. That portion of the thread which is passing from the bobbin to the eye is prevented from interference with the portion which is passing from the eye to the slot *g, h* by the 95 notched partition *t*, the two said portions of the thread being guided respectively by the notches *w* and *y*, and being kept apart by that part of the partition which is between said notches. 100

The slot *p* is made long enough to guide the thread through the notch *y* and at a properly acute angle with the portion *g* of the slot *g, h* when the thread is extending in the position indicated in Fig. 1, and the 105 shorter slot *r* which also registers with the slot *g, h* serves to guide the thread into the grooved portion *h* of the slot at that end when the shuttle is moving in the opposite direction. These tapered portions *h* therefore operate to elongate the longitudinal slot in guiding the thread. 110



The slot *p* is sufficiently narrow to prevent any bunches from entering the eye, and thence passing out into and through the slot *g, h*. Preferably the longitudinal slot *g, h*, the notch *y*, and the slots *p* and *r* are on the same level, and the upper end of the hole *s* and the lower portion of the notch *w* are on a level which is slightly above that of the slot *g, h*.

10 We desire it to be understood that this invention is applicable to shuttles provided with cops as well as those provided with bobbins, and operates in the same manner in both instances.

15 Having thus fully described our invention, what we claim, and desire to secure by Letters Patent is:—

1. A shuttle of the character described, provided in one of its side walls with a longitudinal slot extending the greater part of the length of the shuttle, and with an eye intersecting the slot near one end, whereby the thread passes through the eye and along and through the slot, for the purpose set forth.

2. A shuttle of the character described, provided in one of its side walls with a longitudinal slot extending the greater portion of the length of the shuttle, said slot extending entirely through the wall opposite the chamber in the shuttle and the portions of the slot at the opposite ends of the shuttle being groove-shaped, said shuttle being provided with an eye intersecting the slot near one end, whereby the thread passes through the eye and along and through the slot, for the purpose set forth.

3. In a shuttle of the character described provided with a longitudinal slot in one of

its side walls, a hollow screw constituting an eye located horizontally and transversely in the head of the shuttle and intersecting the slot, said eye being provided in its opposite walls with two horizontal slots of unequal length extending from its outer end, the longer of the two said slots being located nearer the bobbin and registering with the longitudinal slot in the shuttle, and a hole for guiding the thread to the interior of the eye, for the purpose set forth.

4. In a shuttle of the character described provided with a longitudinal slot in one of its side walls, an eye located longitudinally and transversely in the head of the shuttle and intersecting said slot, and a partition located in and transversely with the shuttle between its head and the adjacent end of the bobbin, said partition being provided with a downwardly extending notch having oppositely inclined sides and a flaring upper edge located in the path of the thread as it passes from the bobbin to the eye and an inwardly extending substantially V-shaped notch between the eye and the longitudinal slot in the wall of the shuttle, whereby the portion of the thread between the bobbin and the eye and the portion of the thread extending from the eye into said longitudinal slot are prevented from becoming entangled together.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN A. PERKINS.  
ORIN J. PERKINS.

Witnesses:

PATRICK A. MCSWEENEY,  
ANNIE A. REGAN.