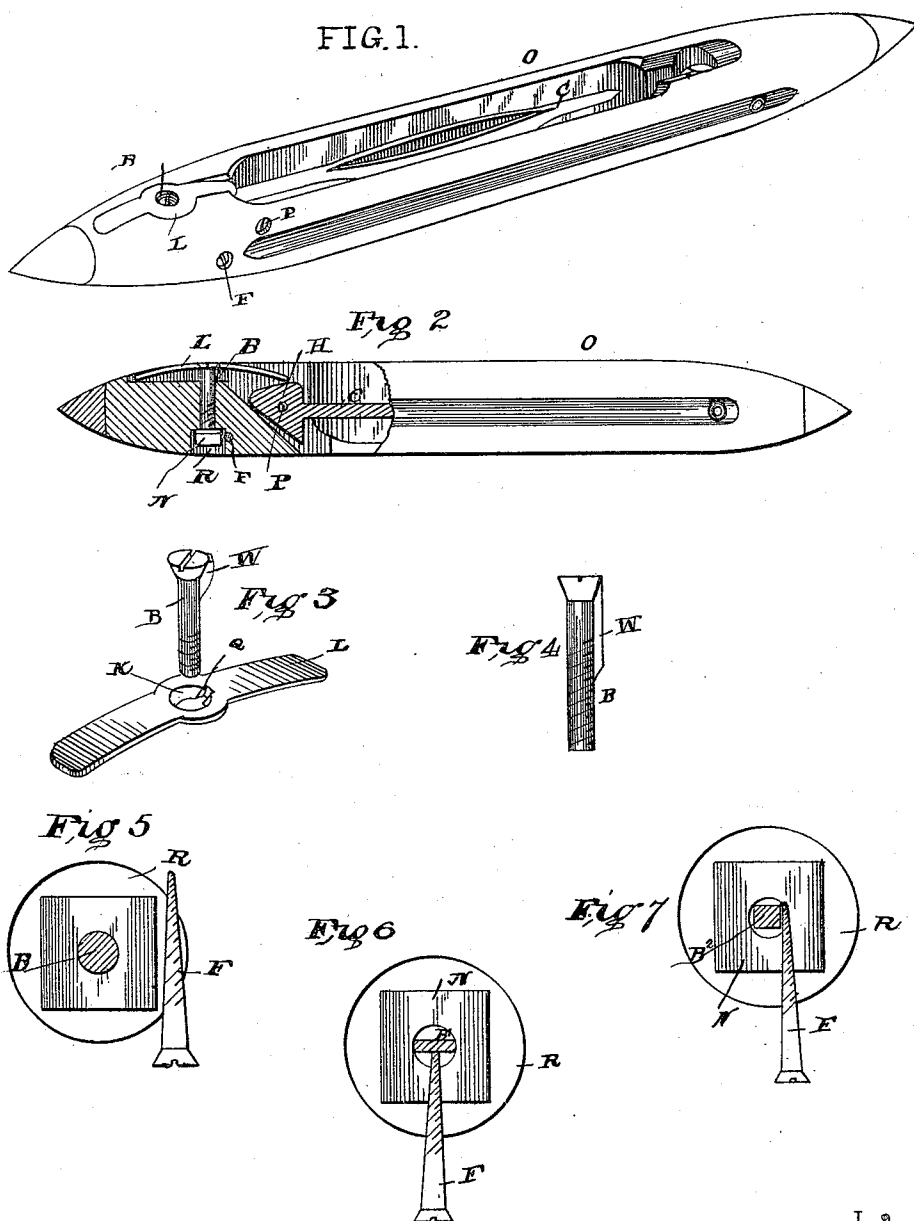


(No Model.)

A. ISHERWOOD.
LOOM SHUTTLE.

No. 461,150.

Patented Oct. 13, 1891.



Witnesses

Isaac Schreud.

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ALFRED ISHERWOOD, OF NEW BEDFORD, MASSACHUSETTS.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 461,150, dated October 13, 1891.

Application filed January 30, 1891, -Serial No. 379,695. (No model.)

To all whom it may concern:

Be it known that I, ALFRED ISHERWOOD, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and useful Loom-Shuttle, of which the following is a specification.

This invention relates to loom-shuttles; and the object of the same is to provide improved means for retaining the spindle-holding spring in position.

To this end the invention consists of the details of construction hereinafter more fully described and claimed and as illustrated in the drawings, in which—

Figure 1 is a perspective view of a shuttle complete, made in accordance with my invention. Fig. 2 is a longitudinal section through the center of the spring, the bolt, and the spindle-head. Fig. 3 is a perspective detail of the spring and one form of bolt. Fig. 4 is a side elevation in detail of another form of bolt. Fig. 5 is a bottom plan view showing the preferred nut-lock. Figs. 6 and 7 are similar views showing slight modifications of the same.

Referring to the said drawings, the letter C designates the cop-spindle, whose head H is mounted on a pivot-bolt P through one end of the shuttle-body O in the usual manner, and L is a leaf-spring, one of whose ends bears upon said head and is adapted to hold the spindle in either raised or lowered position, as is well understood.

B is the bolt which passes through the spring and through the shuttle-body and by means of which the spring is retained in proper position. The present invention contemplates the provision of means for preventing the turning or loosening of this bolt whereby the spring will be permitted to yield and allow the spindle to rise or to become loose. The bottom of the shuttle-body O is bored with a recess R around the lower end of the bolt B, and within this recess upon the lower end of the bolt is screwed the nut N. By this means the bolt is drawn down tightly and its head is seated in the countersunk recess K in the center of the spring. This recess may be angular and the bolt of a shape to engage it; but it is preferably made with the offset Q at one side adapted to be engaged

by a web W upon the head of the bolt, as seen in Fig. 3, and in some cases this web may continue downwardly throughout a portion of the length of the body of the bolt, as seen in Fig. 4, so that the bolt will be prevented thereby from turning within the wooden body of the shuttle. After the nut N above mentioned has been screwed onto the lower end of the bolt B, and the same drawn tightly down on the spring so that the latter will exert the desired pressure upon the angular head H of the spindle, the following means are provided for preventing a return movement of the nut which will permit the loosening of the bolt.

Into the side of the shuttle is passed a pin or screw F, which stands at right angles to the bolt B, and which is adapted to prevent the nut N from turning. As the web or the squared angular head of the bolt cannot turn in the recess in the spring, nor the latter in the shuttle, if the nut also be prevented from turning it is obvious the spring cannot become loose. The fastening-screw F is preferably passed laterally into the side of the shuttle-body and alongside of the nut N, as seen in Fig. 5, or, if desired, it may pass beneath the nut so as to prevent its unscrewing and its tip bear against the bolt, which is there flattened, as at B' in Fig. 6, or said tip extend alongside the bolt, which is squared, as seen at B² in Fig. 7. The idea is simply that this fastening-screw shall serve as a nut-lock to prevent the unscrewing of the nut N, and sometimes also as a bolt-lock to prevent the turning of the bolt. In this event the body of the bolt is made angular by being flattened, as seen in Fig. 6, or squared, as in Fig. 7, so that the fastening-screw F can engage it, as described above.

It is well known among those skilled in this art that in shuttles constructed in substantially this manner where the spring is held by a screw the latter very often becomes loose during the operation of weaving and allows the spindle to rise, the result being the spoiling of a great deal of material and the consumption of considerable time in repairing both the material and the machinery. If the bolt be used to hold the spring in place, the same disastrous results often follow the accidental unscrewing of the nut on the bolt;

but with the present construction the unscrewing of the nut as well as of the bolt is positively avoided, there being no tendency on the part of the fastening-screw F to work out of the wooden body of the shuttle.

What I claim as new is—

1. In a loom-shuttle, the combination, with the shuttle-body of a cop-spindle having an angular head pivoted in the shuttle-body and a spring bearing on said head, of a bolt detachably clamping the spring to the shuttle-body, a web on the head of the bolt engaging an offset in the bolt-hole through the spring, a nut on the bolt, and a removable lock for said nut, substantially as described.

2. In a loom-shuttle, the combination, with the shuttle-body of a cop-spindle having a head pivoted in the shuttle-body and a spring bearing on said head, of a bolt detachably clamping the spring to the shuttle-body, a web on the head of the bolt engaging an offset in the bolt-hole through the spring, a nut

on said bolt, and a screw removably seated in the shuttle-body and preventing the turning of the nut, substantially as described.

3. In a loom-shuttle, the combination, with the shuttle-body of a cop-spindle having a head pivoted in the shuttle-body and a spring bearing on said head, of a bolt detachably clamping the spring to the shuttle-body, a web on the head of the bolt engaging an offset in the bolt-hole through the spring, a nut on said bolt, the body of the latter being angular, and a screw removably seated in the shuttle-body and against the angular portion of the bolt and preventing the turning of the nut, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALFRED ISHERWOOD.

Witnesses:

CHARLES S. STRATTON,
JAMES THORPE GARSIDE.