

A. PETERSEN.
SHUTTLE CHECKING DEVICE FOR LOOMS.
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1,013,217.

Patented Jan. 2, 1912.

Fig. 1.

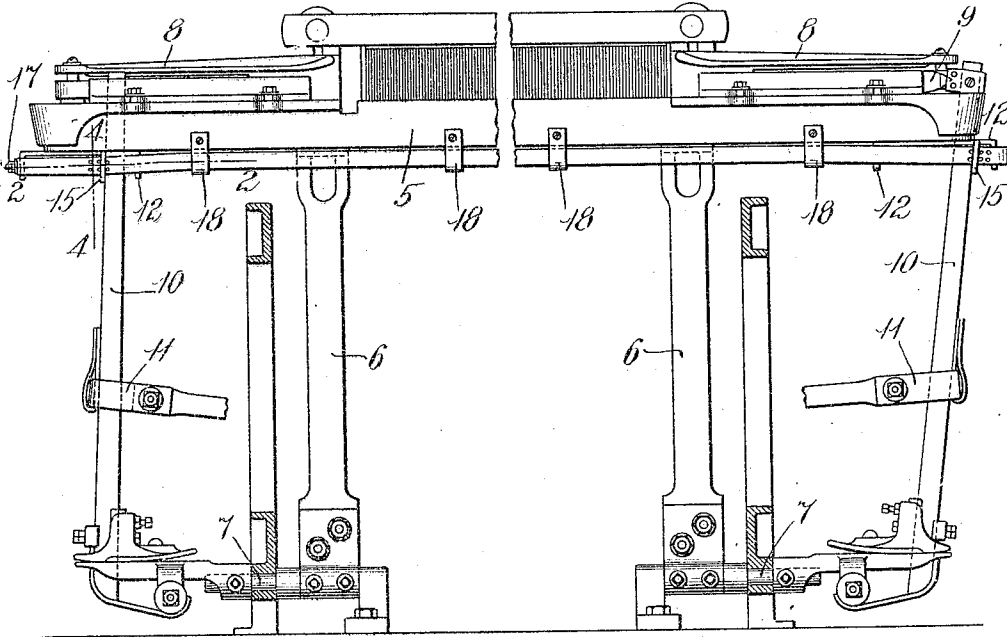


Fig. 4.

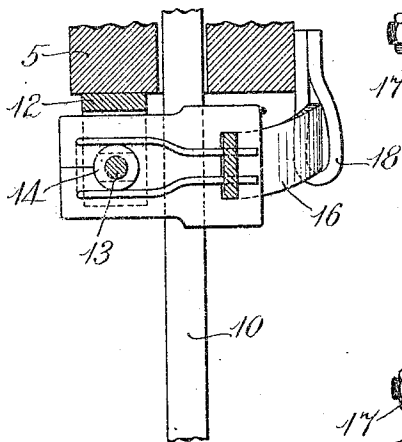


Fig. 2.

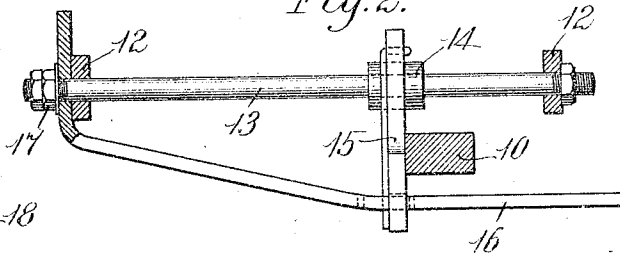
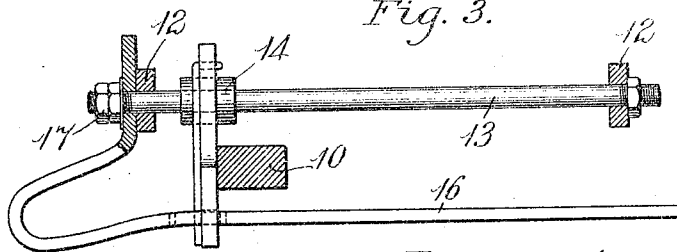


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

ANKER PETERSEN, OF WINTHROP, MASSACHUSETTS, ASSIGNOR TO BOSTON MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

SHUTTLE-CHECKING DEVICE FOR LOOMS.

1,013,217.

Specification of Letters Patent.

Patented Jan. 2, 1912.

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To all whom it may concern:

Be it known that I, ANKER PETERSEN, a subject of the King of Denmark, residing at Winthrop, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Shuttle-Checking Devices for Looms, of which the following is a specification.

This invention relates to improvements in looms and particularly to an improved means for gradually checking the speed of the shuttle as it enters the box and preventing its rebounding therefrom, and the object is to make it possible to decrease the tension of the shuttle binder spring thus decreasing the power necessary to throw the shuttle from the box through the shed, this being accomplished by checking the speed of the picker stick and the picker which the shuttle strikes when entering the box.

The invention consists in the novel features of construction and in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the appended claims.

Referring to the drawings: Figure 1 is a cross sectional view of a portion of a loom embodying my invention, the same being partly broken away to save space in the drawings. Fig. 2 is an enlarged detail plan section taken on line 2—2 of Fig. 1, showing a portion of the picker stick checking strap in its right hand position. Fig. 3 is a plan section similar to Fig. 2 showing the picker stick and a portion of the picker stick checking strap in its left hand position. Fig. 4 is a sectional view taken on line 4—4 of Fig. 1, looking toward the right.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is the lay mounted upon two lay swords 6, 6 which are mounted upon any usual or desired rock shafts 7. At opposite ends of the lay 5 are shuttle boxes 8, 8 which differ from the shuttle boxes ordinarily employed in that the usual shuttle binder spring is of very light tension.

9 is the shuttle which is reciprocated on the lay 5 in the usual manner by means of picker sticks 10, 10 to which are connected the usual lug straps 11, 11 forming a part of any suitable picker stick mechanism, the remainder of the mechanism being omitted as being well known to those skilled in the

art. Secured to the underside of the lay 5 at opposite ends thereof are two U-shaped brackets 12, 12 and through each of these brackets passes a guide rod 13 secured therein and having mounted thereon a slide 14 preferably formed of oil impregnated wood. Secured to the slides 14, 14 in any suitable manner are cushions or pads 15 preferably formed of leather, said cushions being also secured to a flexible member 16 preferably consisting of a leather strap which extends from side to side of the loom and is secured at its opposite ends to the outer ends of the brackets 12 by nuts 17 having screw-threaded engagement with the guide rods 13. The strap 16 passes through a plurality of guides preferably consisting of a series of leather loops 18 secured to the lay 5 and said strap is of such a length as to form a slack alternately at opposite ends thereof when reciprocated through the loops 18, the appearance of this slack being shown in Fig. 3, which illustrates the left hand end of the strap.

When the left hand picker stick 10 has propelled the shuttle 9 toward the right, said picker stick returns into contact with the cushion 15, as shown in Fig. 2, and when the shuttle is propelled by the right hand picker stick toward the left into the left hand box 8, said shuttle in striking the picker causes the left hand picker stick 10 to move the cushion 15 and slide 14 toward the left, thereby carrying the strap 16 from the position shown in Fig. 2 into the position shown in Fig. 3, during which movement the strap slides through the loops 18 and owing to the inertia of the strap 16, cushion 15 and slide 14 the speed of the picker stick and consequently the speed of the shuttle is gradually checked so that the shuttle comes to a state of rest in the box without rebound, the action being quite similar to the action which takes place when a ball is caught in the hand of a person. It will be understood that the weight of the strap will be properly proportioned to the weight of the shuttle, it being evident that a heavy shuttle will require a heavy strap and a light shuttle a correspondingly light strap. It will be evident that the movement of the strap 16 toward the left as just described will carry the right hand slide 14, cushion 15 and picker stick 10 toward the left into the proper position to check the speed of the

shuttle as it is propelled from the left hand side of the loom into the right hand box, the action of the parts on the right hand side being exactly the reverse of those on the left hand side. By checking the speed of the shuttle in this manner the checking action begins earlier than can be accomplished in any other manner now employed and I am, therefore, enabled to employ a shuttle binder spring having a very light tension. As a consequence the power required to throw the shuttle from the box through the shed is greatly lessened and the parts are found to operate with much less shock and wear.

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

1. The combination, in a loom, of a flexible member fixed at two points, two devices secured to said member intermediate said points, means to guide said devices, a picker mechanism including two picker-sticks engaging and moving said devices, respectively, each in a direction contrary to that of the other, and a shuttle propelled by said picker-sticks alternately in opposite directions and arranged to travel between and engage and move said picker-sticks alternately.

2. The combination, in a loom, of a flexible member fixed at two points, two devices secured to said member intermediate said points, means to guide said devices, a picker mechanism including two picker-sticks engaging and moving said devices, respectively, each in a direction contrary to that of the other, means located between said picker-sticks to support and guide said member, and a shuttle propelled by said picker-sticks alternately in opposite directions and arranged

to travel between and engage and move said picker-sticks alternately. 40

3. The combination, in a loom, of a flexible member fixed at two points, two cushions secured to said member intermediate said points, means to guide said cushions, a picker mechanism including two picker-sticks engaging and moving said cushions, respectively, each in a direction contrary to that of the other, and a shuttle propelled by said picker-sticks alternately in opposite directions and arranged to travel between and engage and move said picker-sticks alternately. 45 50

4. The combination in a loom of a shuttle, a picker mechanism including two picker sticks to propel said shuttle alternately in opposite directions and arranged to be alternately moved by said shuttle near the end of its travel alternately in opposite directions, two slides, guides upon which said slides are mounted to slide, two cushions connected to said slides, respectively, and a flexible member fixed at two points and connected to said cushions intermediate said points, said cushions being adapted to be engaged by said picker sticks, respectively, when moved by said shuttle, whereby said member is moved alternately in opposite directions, and the speed of said shuttle in opposite directions is gradually checked. 55 60 65 70

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

ANKER PETERSEN.

Witnesses:

LOUIS A. JONES,

SADIE V. MCCARTHY.