P. JONCAS.

SHUTTLE GUARD.

APPLICATION FILED DEC. 22, 1914.

1,167,369.

Patented Jan. 4, 1916.

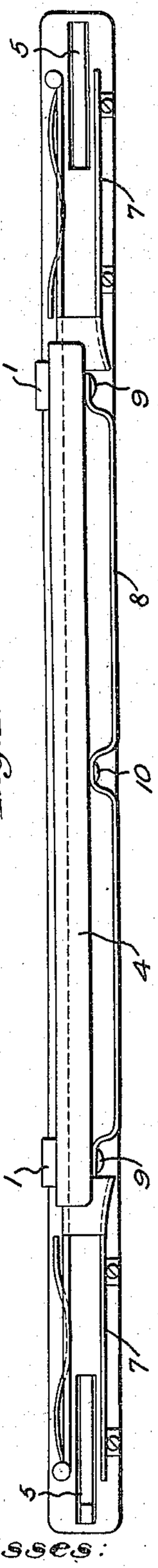

Fig. 1.

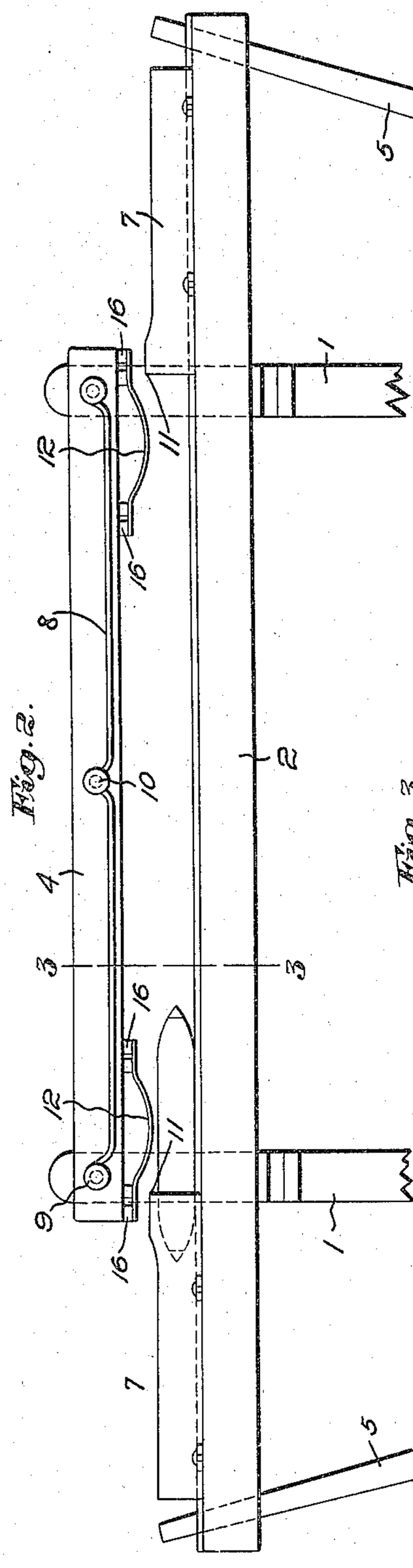

Fig. 2.

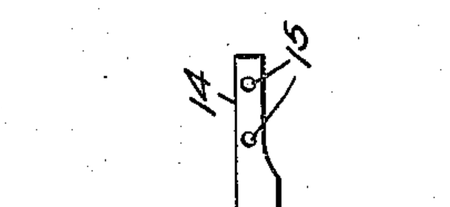

Fig. 3.

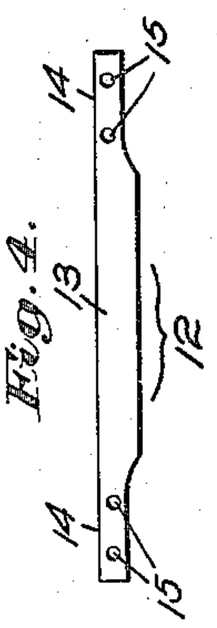

Fig. 4.

Witnesses:

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# UNITED STATES PATENT OFFICE.

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## SHUTTLE-GUARD.

1,167,369. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed December 22, 1914. Serial No. 878,599.

*To all whom it may concern:*

Be it known that I, PHILIP JONCAS, a citizen of the United States, and a resident of Fall River, in the county of Bristol and Commonwealth of Massachusetts, have invented an Improvement in Shuttle-Guards, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to shuttle guards and more particularly to shuttle guards mounted adjacent to the reed of the loom.

In order that the principle of the invention may be readily understood, I have disclosed a single embodiment thereof in the accompanying drawing, wherein—

Figure 1 is a plan view of the shuttle race, the reed and reed cap and related parts of the loom; Fig. 2 is a side elevation thereof, Fig. 3 is a transverse section upon the broken line 3—3 of Fig. 2; and Fig. 4 is a plan view of the detached shuttle guard.

The shuttle guard embodying my invention may be employed in any type of loom. I have herein conventionally represetned the swords of the lay at 1, the shuttle race at 2, the reed at 3, the reed cap at 4, the picker sticks at 5, the shuttle at 6 and the shuttle boxes at 7. I have also indicated at 8 a usual form of shuttle guard consisting of a wire or strip secured at its ends 9 and intermediate portion 10 to the front face of the reed cap and preferably extending substantially the entire length thereof. Such form of shuttle guard is not effective for the purpose of guiding the shuttle to its boxes. The said shuttle guard 8 may or may not be employed by me, as it constitutes no part of the present invention.

In order accurately to guide the shuttle to its boxes, if its flight be deflected from the race of the lay, I provide in advance of each shuttle box a shuttle guard which preferably is positioned very slightly above the normal path of the shuttle, so that upon slight deflection of the shuttle above its normal path, it will contact with one of said shuttle guards and be thereby guided into the shuttle box. The construction is preferably such that the shuttle will not strike upon the inner edge 11 of the shuttle box, such action frequently occurring with all types of shuttle guards with which I am familiar. Preferably the shuttle guard is secured to the under side of the reed cap, and also preferably its position may be varied to accommodate different heights of reeds, so that whatever be the height of the reed, the shuttle guard may be positioned at a substantially unvarying height above the top of the shuttle in its normal course. I may also vary the position of the shuttle guard to accommodate different sizes of shuttle.

While the shuttle guard embodying my invention may be variously constructed, I have herein represented it as a slightly resilient, metallic strip 12, preferably of steel, and having a bowed, central portion 13 and ends 14 provided with screw holes 15 by means of which the shuttle guard may be secured in position lengthwise of the reed cap. The strip 12 being directly secured only at its ends, the central bowed portion is somewhat yielding. In order that there may be no obstructing portions, the screw holes 15 are countersunk. In the preferred embodiment of the invention, the shuttle guard is provided with a bowed portion, one of the advantages whereof is that the shuttle may be thereby deflected toward the raceway when traveling in either direction. In the preferred embodiment of the invention, the said guard is secured directly to and facewise against the under side of the reed cap.

Any suitable means may be provided by which the shuttle guard may be maintained or positioned at the same height above the top of the shuttle irrespective of the height of the reed. For that purpose I have herein represented washers 16 which may be positioned between the ends 14 of the shuttle guard and the reed cap, and through which the securing screws pass. Instead of employing washers, I may provide the shuttle guard with an upstanding edge portions adapted to be secured to the vertical face of the reed cap. In order to provide for suitable adjustment of such shuttle guard in the event of a change in the height of the reed, the said edge or portion may be vertically slotted for the reception of securing bolts. In this manner, I may vary the position of the shuttle guard for any purpose, as, for example, to accommodate different sized shuttles or to provide for variations in the height of the reed.

While the shuttle guard may be posi-

tioned at any desired point, it is preferably positioned slightly in advance of and close to the mouth of the shuttle box, and in such manner that a slightly deflected shuttle striking thereagainst is directly guided or deflected into the shuttle box and does not strike against the front edge 11 thereof.

The shuttle guard is stiffly or very slightly resilient, and while it is preferably made of steel, it may be composed of any suitable material.

Having thus described one illustrative embodiment of my invention, I desire it to be understood that although specific terms are employed, they are used in a generic and descriptive sense and not for purposes of limitation, the scope of the invention being set forth in the following claims.

Claims:

1. In a loom, a shuttle guard having a bowed portion positioned to be engaged by a shuttle in its deflected flight and means engaging said guard at its unbowed portion and securing it to its support, thereby permitting slight yielding of the bowed portion.

2. In a loom, a lay having a reed and a reed cap, and a shuttle guard supported by and secured to said reed cap and positioned at the under side thereof, said guard having a bowed portion to be engaged by the shuttle in its deflected flight.

3. In a loom, a lay having a reed, a shuttle guard attached thereto and having a bowed portion positioned to be engaged by the shuttle in its deflected flight and means engaging said guard at its unbowed portion and securing it to its support, thereby permitting slight yielding of the bowed portion.

4. In a loom, a lay having a reed and a reed cap, and a shuttle guard positioned at the under side of the reed cap and in the path of the shuttle, said guard being secured directly to and facewise against said under side of the reed cap and supported thereby.

5. In a loom, a shuttle guard positioned in advance of the shuttle box and consisting of a slightly resilient, metal strip having a bowed portion to be engaged by a shuttle in its deflected flight.

6. In a loom, a shuttle guard positioned in advance of the shuttle box and consisting of a slightly resilient, metallic strip extending longitudinally of the shuttle race and having a bowed, central portion, and means for securing the ends thereof in position.

7. In a loom, a shuttle guard positioned in advance of the shuttle box and consisting of a slightly resilient, metallic strip extending longitudinally of the shuttle race and having a bowed, central portion, and means for securing the ends thereof to the under side of the reed cap.

8. In a loom, a shuttle guard positioned in advance of the shuttle box and consisting of a slightly resilient, metallic strip extending longitudinally of the shuttle race and having a bowed, central portion, and means for securing the ends thereof in position with capacity to vary said position to suit different heights of reeds.

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

PHILIP JONCAS.

Witnesses:

NICHOLAS HATHAWAY,

JOHN Q. CUNNIFF.