

No. 775,308.

PATENTED NOV. 22, 1904.

F. OTT.

SHUTTLE CHECK FOR LOOMS.

APPLICATION FILED DEC. 1, 1903.

NO MODEL.

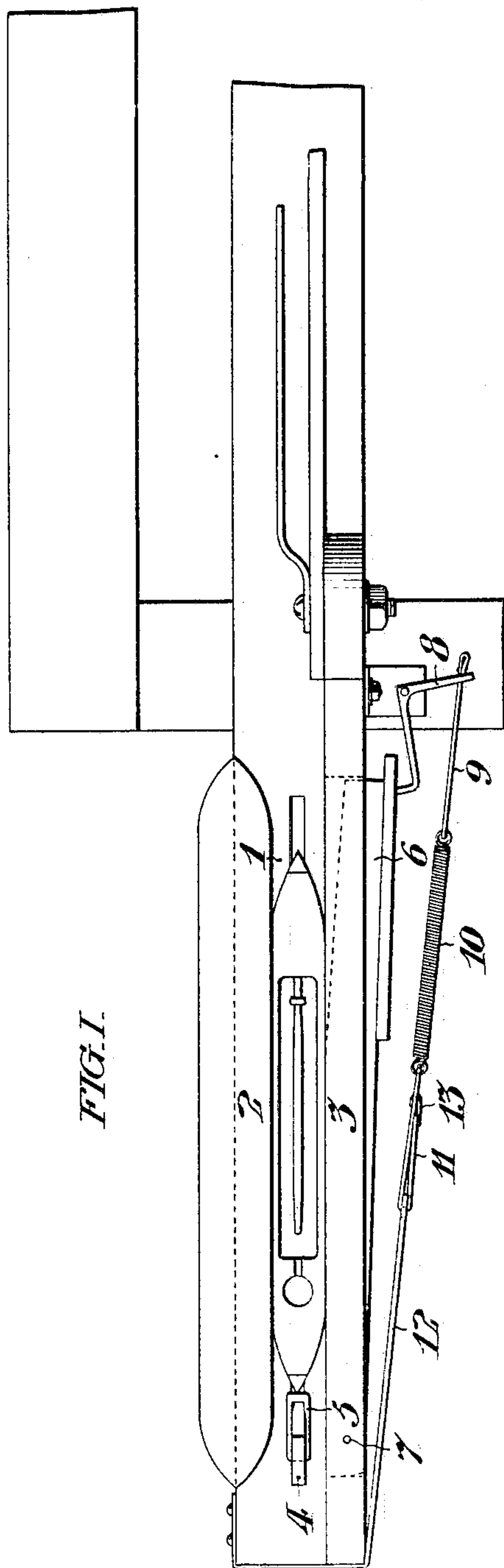


FIG. 1.

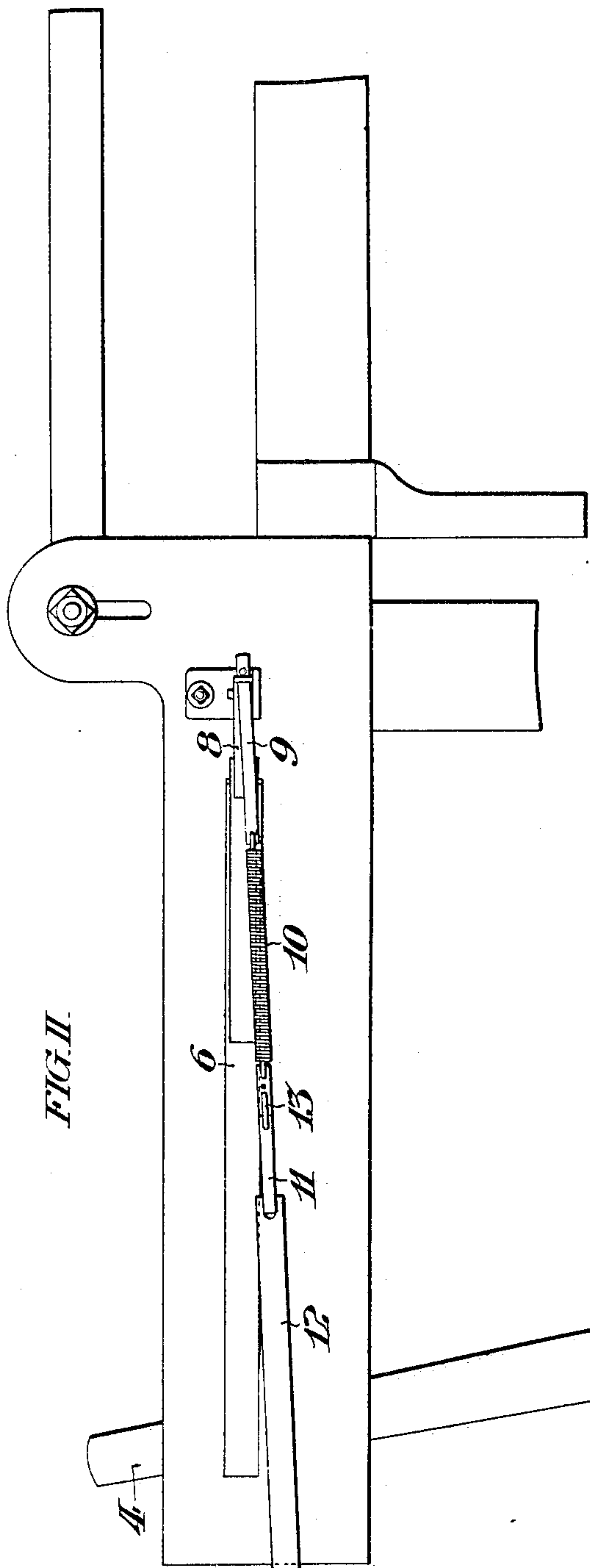


FIG. 11

WITNESSES:

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UNITED STATES PATENT OFFICE.

FREDERICK OTT, OF WOONSOCKET, RHODE ISLAND.

SHUTTLE-CHECK FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 775,308, dated November 22, 1904.

Application filed December 1, 1903. Serial No. 183,324. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK OTT, a citizen of the United States, residing at Woonsocket, in the State of Rhode Island, have invented certain new and useful Improvements in Shuttle-Checks for Looms, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to a shuttle-check as distinguished from a shuttle-binder or shuttle-lock—that is to say, it has for its object to break the force of the impact of the shuttle against the picker and not to bind or lock the shuttle in the shuttle-box or to prevent rebound.

Figure I is a plan view of a portion of the lay of a loom, showing a shuttle-box having my shuttle-check mechanism attached to it. Fig. II is an elevation of the same.

In looms which are used for weaving with cops of very fine or fragile material the blow of the shuttle upon the picker tends to break both the cops and the bobbins.

It is an object of my invention to construct a shuttle-check mechanism which will ease the force of the blow which the shuttle delivers upon the picker when it is received at the end of its throw into the shuttle-box, while at the same time affording as little resistance as possible to the delivery of the shuttle from the shuttle-box at the beginning of the next throw. To this end I employ a shuttle-check which is hinged to the wall of the shuttle-box at its outer end and impart the requisite inward pressure to the shuttle-check through the medium of a comparatively long strap and coiled spring. In this way I am enabled to get such a delicate regulation of the pressure that the spring gently interposes the shuttle-check so as to touch the side of an approaching shuttle, whereupon the rubbing of the side of the shuttle along the side of the shuttle-check increases the pressure, while, on the other hand, when the shuttle is delivered from the shuttle-box at the next pick the direction of the motion of the shuttle immediately releases it

from all pressure and allows its easy delivery under the full force of the stroke of the picker-staff.

1 is the shuttle-box, which is provided with a box-back 2 and a box-front 3.

4 is the picker-staff, and 5 is the picker.

6 is the shuttle-check, fitting a slot in the box-front. It swings upon a pivot 7 near the outer edge of the box. The inner side of the shuttle-check has a curved face, the contour of which is seen in Fig. I.

8 is a bell-crank lever pivoted near the outside of the box-front, the long arm of which rests against the free end of the shuttle-check. To the other arm is attached a strap 9, fastened to a long coiled spring 10, to the other end of which is attached an adjusting-strap 11, made fast to a strap 12, which passes freely to and around the end of the lay, being fastened thereto at its other extremity. The hook 13 on the adjusting-strap enters one of a series of closely-set holes in the strap, by means of which the tension on the spring may be accurately regulated.

In operation when the shuttle-box is empty the strap 11 is so adjusted as to place upon the spring 10 sufficient tension to gently push the cheek of the shuttle-check into the path of the shuttle. The moment the shuttle begins to rub against the cheek of the shuttle-check the friction increases the force with which it presses the shuttle between the two sides of the boxes and prevents harm resulting from the impact of the shuttle against the picker. When the next blow of the picker commences to drive the shuttle out of the box, this pressure is wholly released because the motion of the shuttle from the box is in a direction which tends to swing the shuttle-check outwardly upon its pivot, and the tension of the spring 10 is so adjusted as to afford no appreciable resistance to this.

I am aware that shuttle-checks have been hitherto pivoted near their outer end, but not in connection with the means of adjustment which I have shown, which include the ad-

justing-strap and the tension-spring. Consequently these prior devices do not admit of the delicate regulation of the motion of the shuttle which I have found to be necessary in
5 weaving with the very fine material before referred to. I am also aware that shuttle-checks have been constructed in which the pressure is effected through the medium of a strap running around the end of the lay; but
10 in such cases this has been accompanied by an arrangement of the picker whereby at the extremity of its play the picker itself strikes the part of the strap which passes around the end of the lay, thus increasing the tension
15 upon the shuttle-check. The action of such devices is quite contrary to that of mine, their chief function being to prevent the rebound of the shuttle, which they do by reason of the fact that the pressure of the shuttle-check is
20 only fully exerted after the shuttle has come to rest. For this reason they interfere with the delivery of the shuttle from the shuttle-box, although they have little effect to break the force of the impact of the shuttle against
25 the picker.

My device, as will be understood, has a different end in view—namely, the prevention of the breaking of the cop or bobbin in fine

weaving by reason of the blow of the shuttle against the picker.

Having thus described my invention, I claim—

1. The combination of the shuttle-box; a shuttle-check pivoted near the outer end of the lay; a horizontal bell-crank lever, one arm 35 of which presses against the free end of the shuttle-check; and flexible connections, including an adjusting-strap, and a spring, attached to the other arm of the bell-crank lever, passing to the end of the lay, and there 40 finding their point of attachment.

2. In a loom, the combination of the shuttle-box; the shuttle-check 6, pivoted at 7; the bell-crank lever 8, one arm of which rests against the free end of the shuttle-check; the 45 strap 9, attached to the other arm of the bell-crank lever; the coiled tension-spring 10; the adjusting-strap 11; and the strap 12, attached to the end of the lay, substantially as described.

In witness whereof I have hereunto signed 50 my name, at Woonsocket, Rhode Island, this 23d day of November, 1903.

FREDERICK OTT.

Witnesses:

WALTER G. HAREFORD,
GEORGE S. READ, Jr.