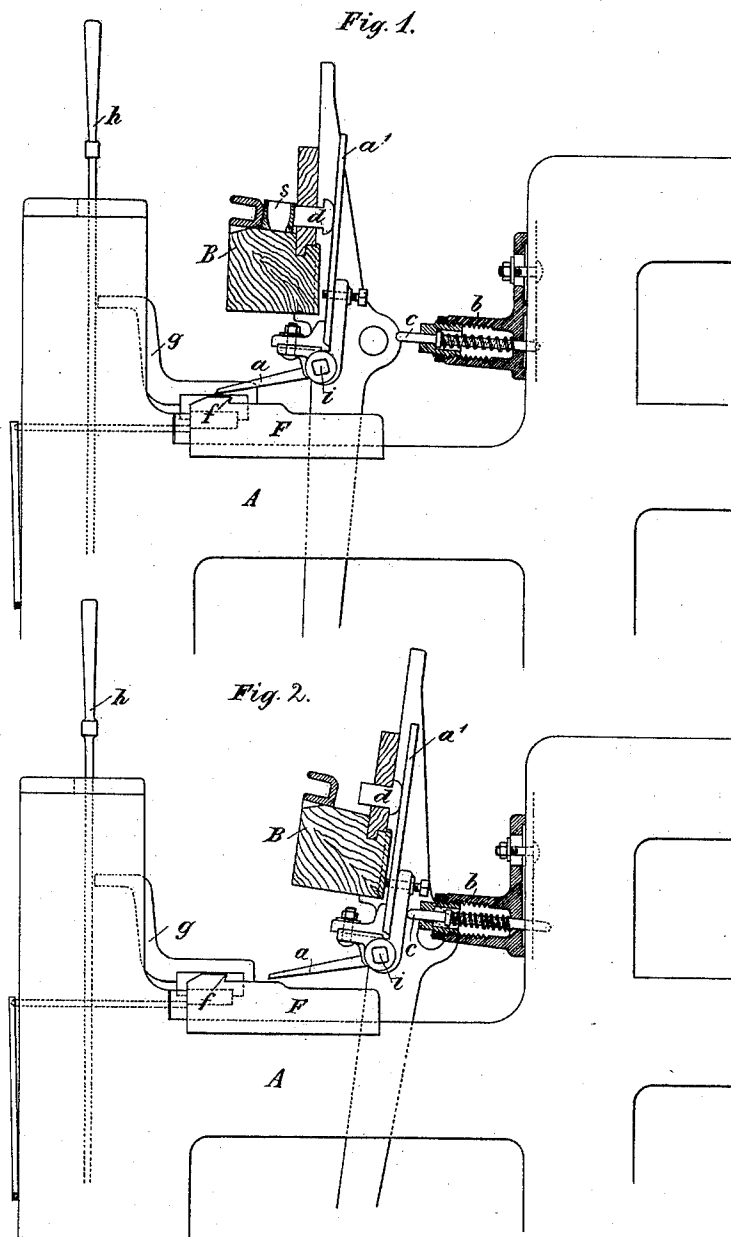


(No Model.)

H. OTTO.
SHUTTLE CHECK FOR LOOMS.

No. 465,026.

Patented Dec. 15, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

HEINRICH OTTO, OF REICHENBACH, WÜRTEMBERG, GERMANY.

SHUTTLE-CHECK FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 465,026, dated December 15, 1891.

Application filed January 27, 1891. Serial No. 379,292. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH OTTO, a subject of the King of Würtemberg, residing at Reichenbach a Fils, Goeppingen, Würtemberg, Germany, have invented certain new and useful Improvements in Shuttle-Checks for Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a tension device for the shuttle-guard rods of looms with stationary reeds, whereby any irregularity in the swinging motion of the shuttle-guard is prevented whatever the speed of motion of the rail, and the shuttle is enabled freely to enter or leave the shuttle-box, as the tension device only acts while the shuttle is in motion and remains inoperative all the time elapsing between the moment preceding the entrance of the shuttle into the box and its issue therefrom. The brake device for the shuttle in the box is of the well-known construction and entirely independent of the shuttle-guard mechanism. In similar devices hitherto known the required tension is effected by a spring acting upon the shuttle-guard tongue. This tension is therefore permanent, and the shuttle as it enters or leaves its box has to overcome not only the pressure of the brake-spring, but also the pulling strain of the shuttle-guard spring, which necessitates a more powerful impact on the part of the shuttle, or, in other words, more motive power.

The tension device herein described does not come into operation till the moment arrives when tension is absolutely necessary, while before and after that time it remains perfectly inoperative, thus enabling shuttles of less power to be used.

Figure 1 of the accompanying drawings shows a side view of the loom with a section through the tension or buffer device. When the lay-beam is in the position shown, the shuttle has entered into the box and has raised the shuttle-guard rod. The buffer device is out of action. Fig. 2 also shows a side view of the loom with the lay-beam in its rearmost position. The shuttle is in motion. The buffer

device is in action and bends the shuttle-guard.

When the lay-beam B is in its rearmost position, the lever *a'*, by virtue of its inertia, has the tendency to remain behind, which, if it were allowed to do, would make the action of the shuttle-guard unreliable; but at that moment the lever *a'* comes in contact with the buffer-pin *c*, maintained in the box *b* and controlled by an adjustable spring. The lever *a'* is thereby pressed against the catch *d* of the shuttle-box and held in this position until the lever *a'*, owing to the weight of the tongue *a*, can of itself retain its position in contact with the catch *d*. Should the shuttle, when in motion, at a given moment of the operation of the tongue device, fail to reach the shuttle-box, the tongue *a* remains in its lowermost position, and as the lay-beam B moves forward catches the shoulder *f* of the block F, which it moves forward upon the side frame A, and through the medium of the arm *g* disengages the stop-lever *h* and instantaneously stops the loom. When, however, the shuttle has duly entered the box, it must thereby have pressed outwardly the catch *d* and the lever *a'*, and as the shuttle-guard rod *i*, which carries the tongue, turns round the tongue *a* is raised off the shoulder *f*, Fig. 1. At the moment when the shuttle leaves its box the lever *a'* has not had time to come in contact with the buffer, so that it has only to overcome the insignificant weight of the tongue *a*. The shuttle-guard rod *i* is provided with tongues *a* at both ends, and the buffer device only acts upon one shuttle-guard lever.

I claim—

1. In combination with the lay and frame of a loom, a shuttle-guard lever supported off said lay, a socket fixed to said frame behind said lever, and a spring-pressed buffer working through said socket and protruding in position to be in contact with said lever when the lay is in its rearmost position, substantially as and for the purpose set forth.

2. In combination with the frame and lay of a loom, a shuttle-guard lever supported on the said lay, a socket fixed to the said frame behind the said lever, a movable catch *d*, extending into the shuttle-box, and a spring-pressed buffer working through the said socket

and protruding in position to be in contact
with the said lever when the lay is in its rear-
most position, the said lever being provided
with a forwardly - extending tongue *a*, the
5 weight of which serves to hold the said shuttle-
guard lever against the said catch when the
lay moves forward from its rearward position,
substantially as set forth.

In testimony whereof I affix my signature in
presence of two witnesses.

HEINRICH OTTO.

Witnesses:

HERMANN SICK,
FRIEDRICH MÜLLER,
Both of Stuttgart.