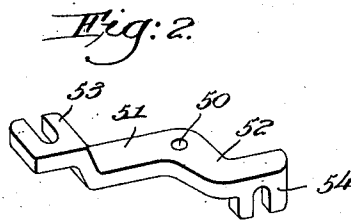
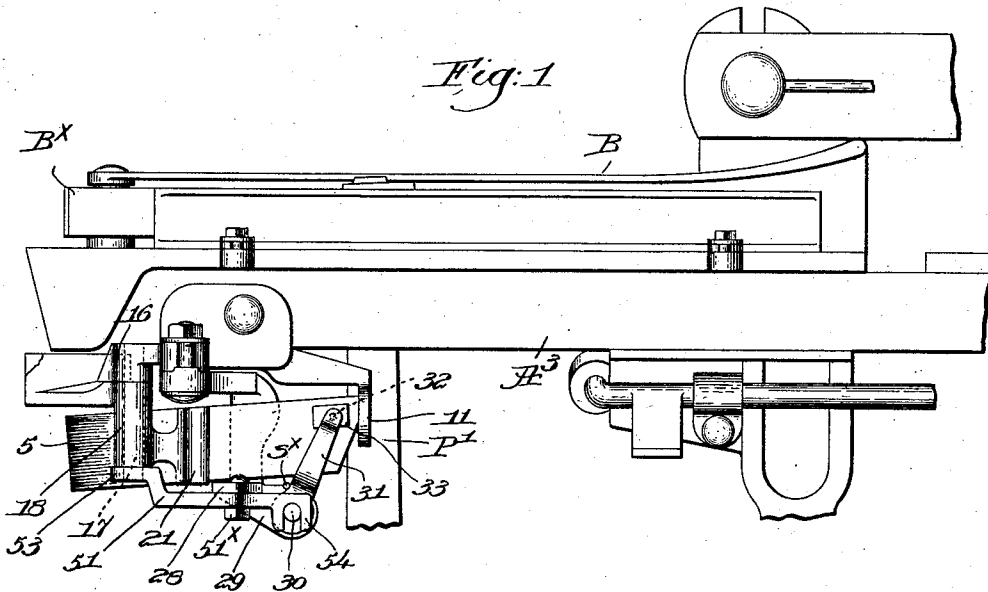


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SHUTTLE CHECKING MEANS FOR LOOMS.  
APPLICATION FILED JULY 15, 1911.

1,021,842.

Patented Apr. 2, 1912.



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# UNITED STATES PATENT OFFICE.

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## SHUTTLE-CHECKING MEANS FOR LOOMS.

1,021,842.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed July 15, 1911. Serial No. 638,674.

*To all whom it may concern:*

Be it known that I, HENRY LUSSIER, a citizen of the United States, and resident of Salem, county of Essex, State of Massachusetts, have invented an Improvement in Shuttle-Checking Means for Looms, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention has for its principal object the perfection of a shuttle checking means such as is illustrated in the patent to Jonas Northrop No. 772,048, granted October 11, 1904, but in its principal features it is capable of a broader application, and the invention is not to be otherwise limited than as indicated by the appended claim.

The shuttle checking means described in the aforesaid patent comprises among other elements a movable presser acting upon one face of the leather loop which engages the picker stick. This movable presser is mounted to oscillate on a depending vertical stud supported on the lay of the loom. The said shuttle checking means also comprises an arm connected to the free end of the leather loop to set the loop at the same point on each pick, and this arm is mounted to oscillate on the free end of a horizontally disposed stud also carried by the lay of the loom. The said movable presser and the said movable arm in the aforesaid patent are retained in position upon their respective studs by washers on the studs and cotter pins passing through the studs. The wear and tear upon the movable parts of a shuttle checking means is very considerable as is well known, and in the construction referred to results in the wearing out and breaking of the cotter pins so that one or the other or both of the parts referred to become loosened or detached from their studs resulting in a failure of the shuttle checking means properly to operate and frequently causing a smash. The present invention is designed particularly to obviate these difficulties and to provide a means of simple and efficient character for effectually retaining these movable parts in position on their respective studs against all danger of displacement, and without liability to any material wear or breakage, thus insuring the correct and perfect operation of the shuttle checking means.

The nature of the invention will more fully appear from the accompanying description and drawings, and will be particularly pointed out in the appended claim.

The drawings show so much of a loom and the shuttle checking mechanism as is necessary to a disclosure of the invention.

In the drawings, Figure 1 is a front elevation of the upper left hand portion of a loom, the shuttle box, and the shuttle checking means; Fig. 2 is a perspective view of the element by which the movable parts are held in position.

A detailed description of the shuttle mechanism as a whole is unnecessary to an understanding of this invention, and reference to the aforesaid patent to Northrup is made in view thereof.

In the construction shown the lay  $A^3$ , the shuttle-box B, the binder  $B^*$ , the picker stick  $P'$  and the leather loop 5 are all constructed and operated as in the said patent. In this construction a supporting structure made up of a plurality of members and connected to the lay serves to control the position of the leather loop, and the details of this structure it is unnecessary to describe because they are all as illustrated and described in the aforesaid patent. This supporting structure comprises among other elements a hollow boss 16 having a downturned or depending elongated stud 17 fixedly secured thereto. A long sleeve-like hub 18 is rotatably mounted on the stud and has offset therefrom an upright presser 21 which bears against the side of the leather loop 5. This hub with its presser is actuated at the required times by the picker stick to swing the presser against the leather loop. The said structure also includes a rigid flat arm 29 extended toward the center of the loom and a fixed stud 30 is extended from the front of this arm at right angles thereto and consequently at substantially right angles to the stud 17. An arm 31 is mounted to rock on the stud 30 and its upper end is pivotally connected by a pin 32 with the free end of the strap 5, the latter being preferably reinforced at 33 to afford a better hold for the pin. This rocker arm 31 is moved to the left, viewing the drawings, by the movement of the leather loop 5, and is moved to the right by the action of a coiled spring, the end of which is seen at  $s^*$ . This arm 31 con-

5 nected with the free end of the strap auto-  
 matically sets the loop at the same point on  
 each pick by bringing the end of the loop 5  
 against the stop 11, all as fully described in  
 the said patent. In the said patent the mov-  
 10 able presser and its hub is held in place on  
 the stud 17 by a washer and cotter pin, and  
 the movable arm 31 is held in place on its  
 stud 30 by a cotter pin. These movable  
 15 parts being in frequent motion and subject  
 to the sudden shocks due to the movement  
 of the shuttle and picker stick are subject  
 to great wear and tear, and it has been found  
 that the cotter pins are subject to great wear  
 20 and frequently fall out or become broken,  
 rendering the shuttle checking means inop-  
 erative, and frequently causing a smash.

In the present invention the cotter pins  
 and washers are dispensed with and the  
 20 movable presser 21 and movable arm 31 are  
 held upon their respective studs in a manner  
 which prevents their displacement and obvi-  
 ates the danger of breakage due to the wear  
 of the parts. For this purpose a locking  
 25 member shown in perspective in Fig. 2 is  
 provided. This member is provided with a  
 hole 50 by means of which it may be secured  
 by a bolt 51\*, to a portion of the frame-work  
 such as the horizontally projecting shelf 28  
 30 described in the said patent. The locking  
 member comprises two arms 51 and 52 ex-  
 tending in generally opposite directions and  
 provided with flat forked ends 53 and 54 re-  
 spectively, the slots in the forked ends be-  
 35 ing of proper width to slip over the studs  
 17 and 30 respectively, and the flat sides of  
 the forked ends being at right angles to the  
 axes of the said studs. The construction is  
 such that when the locking member is se-  
 40 cured in place by the bolt 51\* the flat side of  
 the forked end 53 will rest against the hub  
 18 of the movable presser, and the flat side  
 of the forked end 54 will rest against the  
 hub portion of the movable arm 31. It will

be seen, therefore, that the movable members 45  
 are held firmly in place on their respective  
 studs by a locking member so constructed  
 and presenting such bearing surfaces and of  
 such strength that danger from wear or  
 breakage at this point is practically elimi- 50  
 nated.

While the invention is of particular value  
 in connection with the shuttle checking  
 mechanism of a loom such as described it  
 may be employed for the locking in position 55  
 of other movable elements of the loom mech-  
 anism, or even of other mechanisms.

Having fully described my invention,  
 what I claim as new and desire to secure by  
 Letters Patent is: 60

In a device of the character described, a  
 supporting structure provided with a pair  
 of fixed fulcrum studs substantially at right  
 angles to each other, a movable member hav-  
 ing a hub portion journaled on each stud, 65  
 the free end of each stud projecting beyond  
 the hub portion of the member journaled  
 thereon, a locking member having oppositely  
 extended arms provided with flat sided,  
 forked ends at right angles to each other and 70  
 resting respectively against the hub por-  
 tions of said movable members, each forked  
 end straddling the projecting end of a stud,  
 thereby holding the movable members se-  
 curely on the studs while permitting rock- 75  
 ing movement of such members, and means  
 to attach the locking member rigidly and  
 fixedly to the supporting structure and pre-  
 vent any relative movement of the forked  
 ends and the studs with which they coöp- 80  
 erate.

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

HENRY LUSSIER.

Witnesses:

MICHEL PHANENF,  
 JAMES J. TIERNEY.