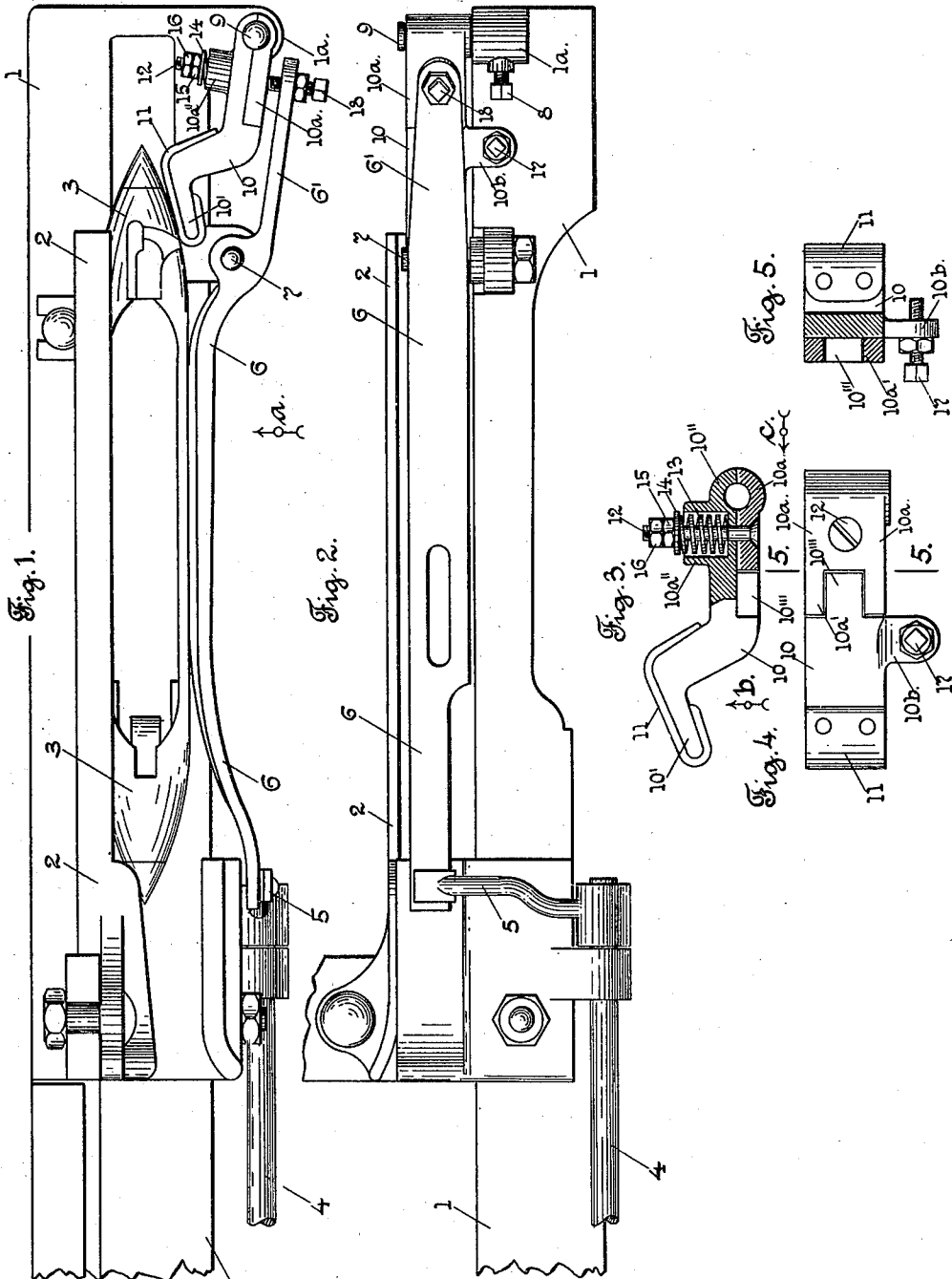


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SHUTTLE CHECK.

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SHUTTLE-CHECK.

1,029,961.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HORACE WYMAN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Shuttle-Checks, of which the following is a specification.

My invention relates to a loom shuttle check, and the object of my invention is to provide a yielding check lever of improved construction, and adapted to be combined with a stationary shuttle box of ordinary construction, and coöperate with the shuttle binder, which binder acts, on the entrance of a shuttle into the shuttle box, to move inwardly such yielding check lever, which causes the shuttle binder to press harder against the shuttle, to hold it in its outward position.

My improved shuttle check consists preferably of a yielding lever or arm, having at one end a contacting surface to engage the outer side of the outer end of the shuttle on its entrance into the stationary shuttle box, and at the other end a split hub for the pivotal stud of said lever, said hub formed partially on the main lever, and partially on a plate yieldingly retained on the main lever. The pivotal stud is preferably located at the outer end and in front of the stationary shuttle box. Extending beyond the pivot point of the shuttle binder, and rigidly connected to the binder or forming a part thereof, is an arm or projection, which carries an adjusting screw, which is adapted to engage the check lever to hold the free end of said lever yieldingly in engagement with the shuttle. Through the engagement of the adjusting screw with the check lever, the shuttle binder is moved inwardly on the entrance of the shuttle into the shuttle box, and acts to press harder against the shuttle and hold it in its outward position.

I have shown in the drawing a stationary shuttle box at one end of a loom, with my improvements in shuttle check combined therewith, sufficient to enable those skilled in the art to understand the construction and operation thereof.

Referring to the drawing:—Figure 1 is a plan view of the right hand end of the lay of a loom, and a stationary shuttle box there-

on, with my improvements in shuttle check 55 combined therewith. Fig. 2 is a front view of the parts shown in Fig. 1, looking in the direction of arrow *a*, same figure. Fig. 3 shows, on an enlarged scale, the check lever shown in Fig. 1, detached, with a portion shown in section. Fig. 4 is a front view of the check lever shown in Fig. 3, looking in the direction of arrow *b*, same figure, and, Fig. 5 is a section, on line 5, 5, Fig. 4, looking in the direction of arrow *c*, 65 same figure.

In the accompanying drawing, 1 is the right hand end of the lay of a loom, and 2 the stationary shuttle box for a shuttle 3.

4 is a rock shaft or protector rod at the front of the lay, with a binder finger 5 thereon, which bears at its upper end against the inner free end of the shuttle binder 6. The shuttle binder 6 is pivoted at its outer end on a stud 7, on the front side of the stationary shuttle box 2. 75

All of the above mentioned parts, except the shuttle binder 6, may be of the usual and well known construction.

I will now describe my improvements. 80

At the end of the lay and in front of the stationary shuttle box 2, is a boss or lug 1^a, in which is secured, by a set screw 8, the lower end of a bolt 9. The bolt 9 has pivotally mounted thereon an arm or lever 10. 85 The lever 10 has the engaging end 10', which is preferably covered with leather 11, and extends within the shuttle box or cell 2, and back of the pivoted end of the shuttle binder 6, and is in the path of and is adapted to be engaged by the outer side of the outer end of the shuttle 3, as it enters the shuttle box 2, see Fig. 1. 90

The lever 10 is made at its pivoted end in this instance in two parts; the main body 95 10, and the plate 10^a, to form in this instance a split hub portion 10'' on the lever 10. The plate 10^a is recessed at 10^{a'}, to receive a projection 10''' on the lever 10, see Figs. 3 and 5. A bolt 12 extends through 100 the plate 10^a, on the lever 10, into a recessed boss 10^{a''} on the lever 10, and a helically coiled expansion spring 13 encircles the bolt 12, and extends within the recess in the boss 10^{a''}, and bears at one end against the inner end of said recess, and at its other end against the washer 14 on the bolt 12, and is held thereon by two lock nuts 15 and 16. 105

The spring 13 acts to yieldingly hold the plate 10^a against the main body 10 of the check lever.

An adjusting screw 17, which turns in the threaded hole in a lug 10^b, extending down from the lever 10, is adapted to engage the front side of the lay beam, and limits the inward movement of the check lever 10.

The outer end of the shuttle binder 6 is extended beyond its pivot point, forming an extension 6', and in this instance has an adjusting bolt or screw 18 turning in a threaded hole therein. The inner end of the bolt 18 is adapted to engage the outer surface of the plate 10^a on the check lever 10. The outward movement of the engaging end 10' of the lever 10, by its contact with the outer end of the shuttle as it enters the shuttle box, will, through the engagement of the bolt 18, on the extension 6' of the shuttle binder 6, with the lever 10, between its engaging end 10' and its pivotal pin 9, press outwardly the extension 6', and cause the binder 6 to press harder against the shuttle.

3. When excessive pressure occurs on the end 10' of the lever 10, by the engagement of the shuttle therewith, the inner engaging end of the bolt 18 acts as a fulcrum for said lever 10, and the split hub portion 10'', see Fig. 3, moves inwardly from its pivotal pin 9, against the resistance of the spring 13, interposed between the split portion 10'' of the lever 10 and the unyielding portion 10^a on the bolt 9.

The bolt 18, on the extension 6' on the shuttle binder 6, may be located, so as to engage the lever 10 in such a position, between the end 10' and the bolt 9, as to produce the desirable yielding resistance of the end 10'' of the split hub. It is immaterial whether the inner end of the bolt 18 bears on the main part of the lever 10, or on the cap 10^a, or on the head of the bolt 12. If desired the extension 6' may be slotted, or have a series of holes therein, for the adjustment of the bolt 18. By turning in or out the bolt 18, the amount of pressure of the yielding lever 10, and also of the binder 6, on the shuttle, may be regulated as desired.

It will be understood that the details of

construction of my improvements may be varied if desired.

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

1. In a shuttle check mechanism, a check lever pivotally mounted on the end of the lay and having an inwardly extending surface contacting with the shuttle, a binder lever pivotally mounted on the lay and having a contacting surface for the shuttle, and an extended end beyond its pivotal support to engage the check lever between its ends, the pivotal end of said check lever having means, yielding inwardly from its pivot, to relieve undue pressure of said check lever on the shuttle.

2. In a shuttle check mechanism for looms, a check lever pivotally mounted on the end of the lay and having at one end a contacting surface for the shuttle, and at the other end a split hub for its pivotal stud, said hub formed partially on the main lever and partially on a plate yieldingly retained on said main lever, a binder pivotally mounted on the lay and having a shuttle contacting surface at one side of its pivot, and an extension on the opposite side of its pivot, contacting with said shuttle check between its ends, whereby the pressure of a shuttle on one surface re-acts yieldingly upon the other surface.

3. In a shuttle check mechanism, the combination with the protector rod, a binder finger fast thereon to engage a shuttle binder, and said binder pivotally mounted, and having an extension beyond its pivotal support, and an adjusting screw or bolt in said extension, of a lever, pivotally mounted on the end of the lay, and extending inwardly, and having an engaging surface to engage the shuttle, and having a recess therein on the inner side of said lever, and an expansion spring within said recess encircling a bolt, and said bolt, yieldingly holding a plate against the main body of said lever.

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Witnesses:

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