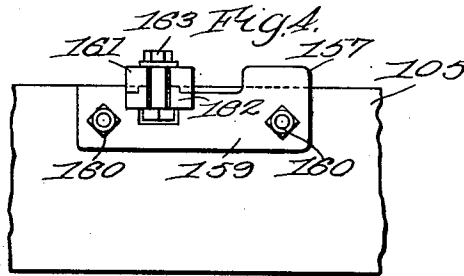
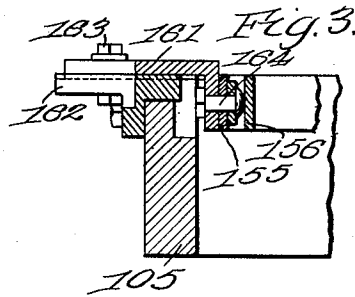
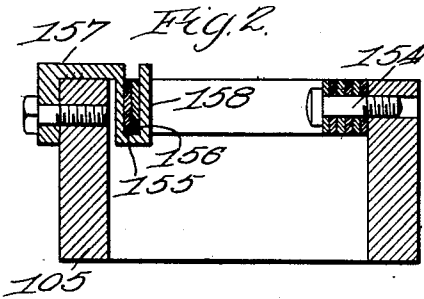
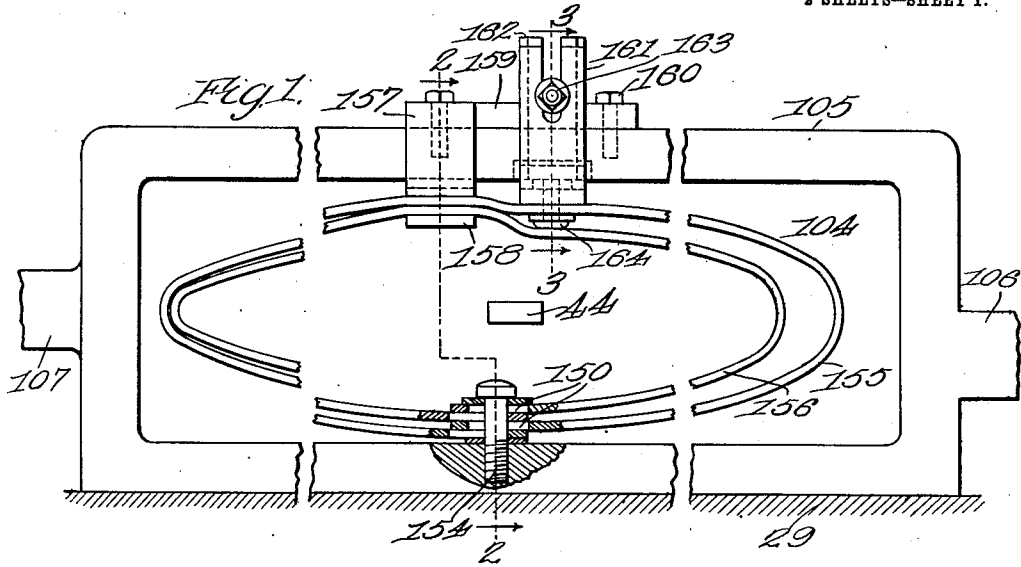


S. TOYODA.
 PICKER CHECK FOR LOOMS.
 APPLICATION FILED FEB. 8, 1909.

962,802.

Patented June 28, 1910.

2 SHEETS—SHEET 1.



WITNESSES:
R. G. Davison
C. H. Crawford

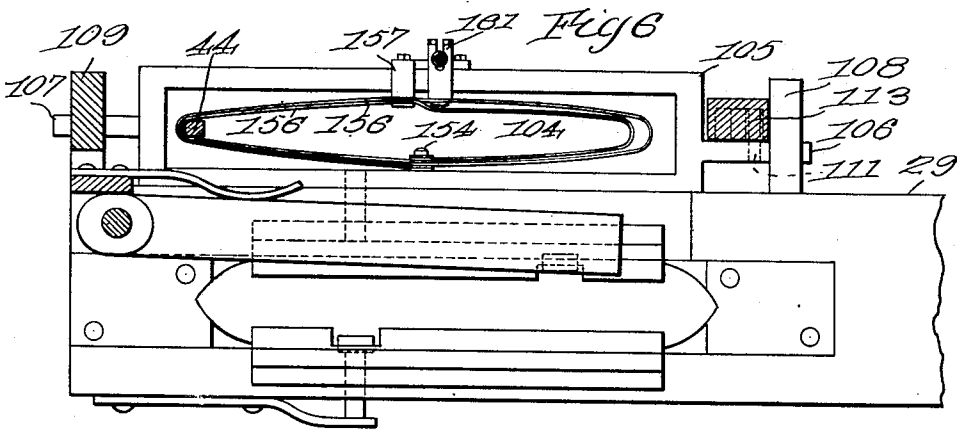
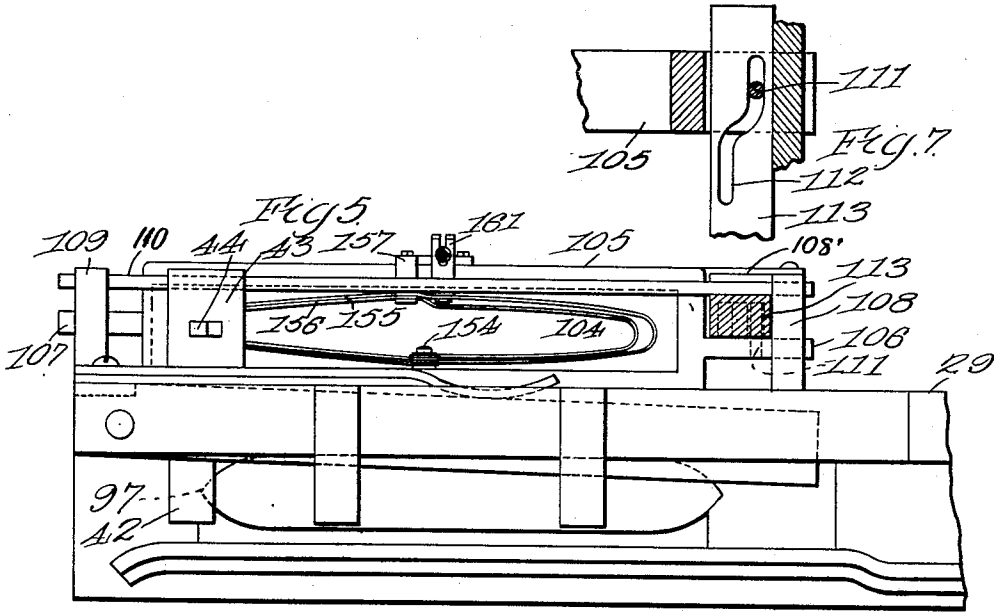
INVENTOR.
Sakichi Toyoda
 BY *B. Singer*
 ATTORNEY.

S. TOYODA.
PICKER CHECK FOR LOOMS.
APPLICATION FILED FEB. 8, 1909.

962,802.

Patented June 28, 1910.

2 SHEETS—SHEET 2.



WITNESSES:
Ed. C. Damon.
C. M. Crawford

INVENTOR.
Sakichi Toyoda
BY *B. Singer*
ATTORNEY.

UNITED STATES PATENT OFFICE.

SAKICHI TOYODA, OF SHIMASAKI-CHO, NAGOYA, JAPAN.

PICKER-CHECK FOR LOOMS.

962,802.

Specification of Letters Patent. Patented June 28, 1910.

Original application filed April 20, 1908, Serial No. 428,218. Divided and this application filed February 8, 1909. Serial No. 476,680.

To all whom it may concern:

Be it known that I, SAKICHI TOYODA, a subject of the Emperor of Japan, residing at Shimasaki-Cho, Nagoya, in the Empire of Japan, have invented certain new and useful Improvements in Picker-Checks for Looms, of which the following is a specification.

This invention relates to improvements in picker checks and is a division from my application filed April 20th, 1908, Serial Number 428,218.

One object of the invention is to provide an improved picker check mechanism for looms whereby the movement of the picker will be retarded prior to the limit of its movement so as to materially relieve the strap of strain when the picker is suddenly brought to a position of rest thereby.

The invention will be more fully described in connection with the accompanying drawings and will be more particularly pointed out and ascertained in and by the appended claims.

In the drawings:—Figure 1 is a plan view, with parts in section, of an improved mechanism embodying the main features of my invention. Fig. 2 is a sectional view on line 2—2 of Fig. 1. Fig. 3 is a sectional view on line 3—3 of Fig. 1. Fig. 4 is a rear view of a portion of the apparatus shown in Fig. 1. Fig. 5 is a plan view of one end of a loom showing the application of my improved form of picker check thereto. Fig. 6 is a view similar to Fig. 5 with parts removed and parts in section. Fig. 7 is a sectional view on line 7—7 of Fig. 5.

Like numerals of reference designate similar parts throughout the different figures of the drawings.

It will be seen by reference to Fig. 5 that the outer end of the shuttle engages a recessed portion 97 in the inner face of the picker block 43 and therefore in this form of the invention it is necessary to move the picker block 43 to the left when it is desired to discharge the operating shuttle or elevate it out of the shuttle and such displacement of the picker block 43 is effected automatically according to my invention by means which as shown consists of the following construction.

The strap for the picker bar 44 cushioning its movements in opposite directions is indicated generally at 104 and will be herein-

after described in detail. A frame 105 carries said strap and is provided with extensions 106 and 107 slidably mounted in guides 108 and 109 projecting rearwardly from the lay member 29. Said guides 108 and 109 also support a guide rod 110 on which the picker block extension 42 slides. Extension 106 is provided with a pin 111 adapted to project into and be operated by a cam slot 112 formed in a bar 113 which latter may be actuated in any desirable manner, not shown. Bar 113 at its upper end is guided by the frame 105 and the guide 108 and if desired an arm 108' may be provided to insure retention of the bar 113 in its working position when the frame 105 is moved to the left. When the bar 113 is raised it will cause the frame 105 to move to the left and when the bar 113 descends it will restore the frame 105 to the normal position shown in Fig. 7. Owing to a spring (not shown) which normally exerts a pull to the left on the picker bar 44, shown in Fig. 5, said picker bar will normally occupy an extreme position to the left of the strap and when the frame 105 is moved toward the left the said spring will impart a movement of like extent to the picker bar 44 and the latter being connected with the picker block 43 will move the same to the left out of engagement with the shuttle to free the end thereof from the recess 97 and will permit the shuttle to be raised.

An improved and novel form of the strap is provided for the picker bar 44 to arrest movement thereof and the improved arrangement is designed to offer resistance to the picker bar prior to its limit of movement or prior to complete stoppage of the same.

Referring to Figs. 1 to 4 there are shown in the frame 105 two picker bar straps 155 and 156, one disposed within or inside of the other. Said straps 155 and 156 are preferably in the form of loops and the same are shown as being anchored by a pin 154, or equivalent means to one side of the frame 105. Preferably the straps 155 and 156 are adjustably anchored and therefore the straps are provided with slots through which the pin 154 passes and said slots are preferably formed in the ends of said straps as indicated at 150. This adjustment not only permits of limiting the swing of the picker bar 44 but it also permits of adjustment of the

strap 156 so that the resistance offered thereby to the picker bar may be increased or decreased as desired. By means of this adjustment the throw of the picker bar may also be varied by adjusting the strap 155. The straps 155 and 156 are seated, at a point substantially opposite from the pin 154, in a support 157 which is mounted on the frame 105. Said support 157 is provided with a U-shaped arm 158 which is so proportioned with respect to the thickness of the strap loops 155 and 156 as to retain the same in relatively close proximity or in abutting relation and also permit of relative movement of said straps. Said support 157 is provided with an extension 159 which is secured by screws 160 to the frame 105. Said support therefore constitutes means for loosely supporting said straps in operative relation with respect to the picker bar 44 and for permitting relative movement of said straps with respect to each other. Means are provided, which means is preferably adjustable, for anchoring one of said straps and cooperating with said support to retard movement of the other strap. As shown said means consists of a slide 161 which is grooved to fit upon a guiding extension 162 of the support 157. Said extension 162 and said guide 161 are slotted to receive a bolt 163 whereby said slide may be anchored in its adjusted position. The inner end of said slide 161 is bent downwardly and is provided with a bolt 164 which passes through the strap 155 and secures the same rigidly to said slide. The head of said bolt 164 displaces the inner strap 156 inwardly and serves by separating said straps to increase the friction of strap 156 in its movement in the support 158. By adjusting the slide 161 inwardly the retardation of the strap 156 will be increased.

It will be seen from the foregoing that the swinging picker bar will first engage the strap 156 and will move the same in the support 158 until the strap 156 is in engagement with the strap 155 at which point the picker bar 44 will be positively brought to a position of rest. The manner in which the strap 156 is supported will, as hereinbefore described, permit said strap to move only under a frictional resistance dependent upon adjustment of the parts and such frictional resistance will serve in a great measure to neutralize the force of the blow imparted by the picker bar on the strap 156 and will result in relieving the strap 155, in great measure, of the strain usually imposed thereon. This will result in greatly prolonging the life of the strap 155 and will prevent frequent breakage which has heretofore been a great defect in apparatus of this character. It will be seen that I have provided positively and yieldingly acting straps for the picker bar.

I claim:—

1. A picker check for looms comprising in combination, a picker bar for operating a shuttle, straps for limiting movement of said bar, and mountings for said straps for rigidly holding one thereof and releasably holding another thereof.

2. A picker check for looms comprising in combination, a picker bar for operating a shuttle, a primary strap limiting movement of said picker bar, a rigid mounting for said strap, an auxiliary strap for neutralizing the blow of said bar on said primary strap, and a mounting for said auxiliary strap engaging the same to afford resistance against movement thereof.

3. A picker check comprising in combination, a picker bar for operating a shuttle, a primary strap limiting movement of said picker bar, a rigid mounting for said primary strap, an auxiliary strap for neutralizing the blow of said bar on said primary strap, and a mounting for said auxiliary strap frictionally engaging the same to retard movement thereof.

4. A picker check for looms comprising in combination, a picker bar for operating a shuttle, a primary strap in the form of a loop for limiting movement of said picker bar, a rigid mounting for said primary strap, an auxiliary strap in the form of a loop disposed within said primary strap and relatively restricted in size with respect thereto, and a mounting for said auxiliary strap engaging the same to afford resistance against movement thereof for neutralizing the blow of said bar on said primary strap.

5. A picker check for looms comprising in combination, a picker bar for operating a shuttle, a primary strap in the form of a loop limiting movement of said bar, oppositely disposed means for rigidly mounting said primary strap, an auxiliary strap in the form of a loop disposed within said primary strap and relatively restricted in size with respect thereto, said auxiliary strap being rigidly secured to one of said oppositely disposed fastening means, and a support for said auxiliary strap cooperating with the other of said oppositely disposed means to frictionally grip said auxiliary strap and permit movement thereof for neutralizing the blow of said bar on said primary strap.

6. A picker check for looms comprising in combination, a picker bar for operating a shuttle, a primary strap in the form of a loop limiting movement of said bar, means rigidly anchoring the ends of said primary strap, an auxiliary strap in the form of a loop disposed within said primary strap and relatively restricted in size with respect thereto, the ends of said auxiliary strap being anchored by said means, a support normally loosely holding said primary and auxiliary straps, and adjustable means rigidly

secured to said primary strap and adapted to cooperate with said support to impose frictional resistance to movement of said auxiliary strap thereby serving to neutralize the blow of said bar on said primary strap.

5
7. A picker check for looms comprising in combination, a picker bar for operating a shuttle, straps for limiting movement of said bar, and mountings rigidly holding one of said straps and releasably holding another and permitting displacement of said releasably held straps in more than one direction.

10
8. A picker check for looms comprising in

combination, a picker bar for operating a shuttle, a pair of straps for limiting movement of said bar, one of said straps being reduced in size with respect to the other, and mountings rigidly holding the larger of said straps and releasably holding the smaller straps.

15
20
In testimony whereof I affix my signature in presence of two witnesses.

SAKICHI TOYODA.

Witnesses:

EDWIN L. NEVILLE,
GEORGE POST WHEELER.