

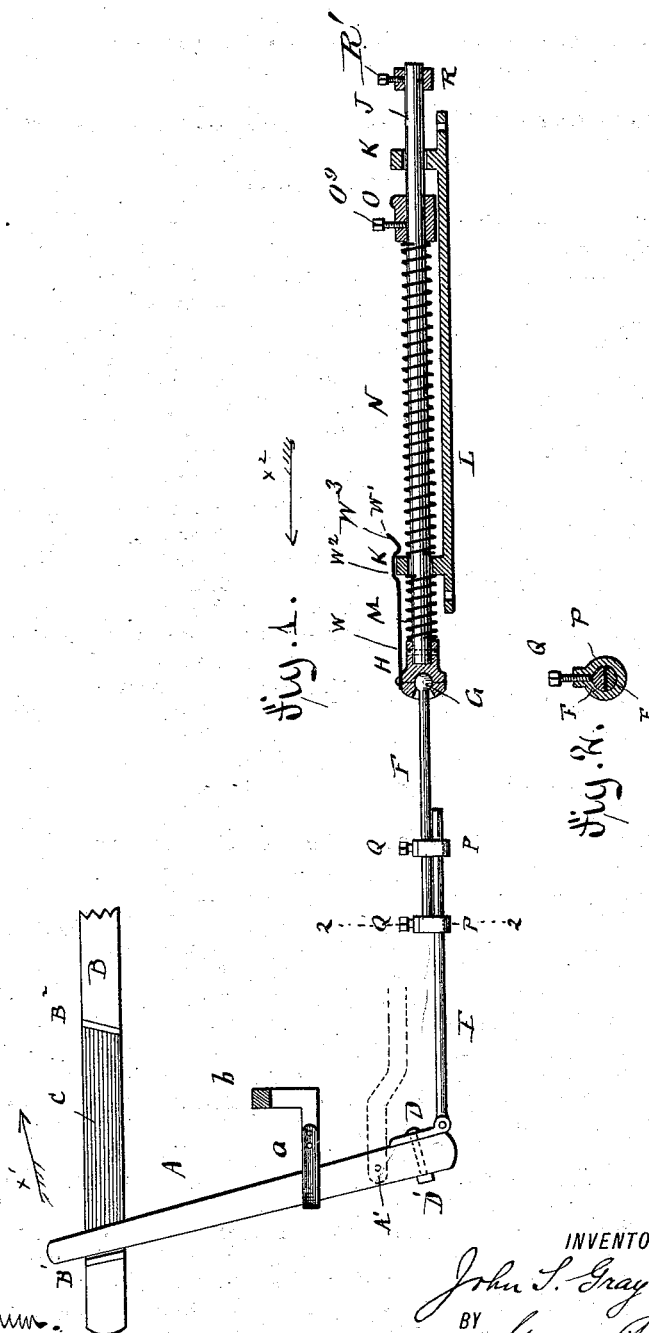
(No Model.)

J. S. GRAY, Sr.

PICKER STICK OPERATING MECHANISM FOR LOOMS.

No. 455,563.

Patented July 7, 1891.



WITNESSES:

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JOHN S. GRAY, SR., OF PASSAIC, NEW JERSEY.

PICKER-STICK-OPERATING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 455,563, dated July 7, 1891.

Application filed June 24, 1890. Serial No. 356,518. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. GRAY, Sr., of the town of Passaic, in the county of Passaic and State of New Jersey, a citizen of the United States, have invented certain new and useful Improvements in Picker-Stick-Operating Mechanism for Looms, of which the following is a specification.

This invention relates to improvements in picker-stick-operating mechanism for looms; and the object of my invention is to provide a new and improved picker-stick-operating mechanism for looms which is simple in construction, can readily be adjusted, and which is provided with a filling check-spring.

In the accompanying drawings, Figure 1 is a longitudinal elevation of my improved picker-stick-operating mechanism for looms, showing the manner in which it is applied on a loom, parts being in section; and Fig. 2 is a transverse sectional view on the line 2 2 of Fig. 1.

Similar letters of reference indicate corresponding parts.

The picker-stick A is pivoted at A', and is adapted to swing in the recess C in the end part of the lay-beam B, at the ends of which recess C the back bumper or cushion B' and the forward bumper or cushion B² are fixed. To the lower end of the picker-stick A a clip D is fastened by a bolt D' passing through the lower part of the picker-stick, which bolt also strengthens the picker-stick and prevents the splitting of the same. To the clip D one end of a rod E is hinged, the other end of which is clamped on one end of a rod F, provided at the opposite end with a ball G, working in a socket of the clip H, which clip is fastened to one end of a rod or bar J, guided to reciprocate lengthwise in the standards K on a suitable base L. A filling check-spring M, which is helical in shape, surrounds the rod J between the clip H and one of the guides K, and a like but longer helical spring N surrounds the rod J between one guide K and the adjustable collar O on said rod, which collar can be adjusted by means of a binding-screw O'. The right-hand end of the rod J projects beyond the right-hand guide K, and on said right-hand end of the rod J a collar R is held by a screw R'. The rods E and F are clamped together by two rings P, having clamping-

screws Q. The ball-and-socket connection between the rods F and J permits the rods E and F to move freely with the picker-stick in different directions without affecting the rod J or causing the same to bind on its guide. The spring W is secured on the top of one guide K, and is provided at its free end with an upwardly-bent arm W', and adjacent to said arm W' with a recess or bend W², adapted to engage the top of the guide K.

The operation is as follows: By means of the arm a on the rock-shaft b the picker-stick is swung in the direction of the arrow x' to throw the shuttle, whereby the spring N is compressed, and when the picker-stick has thrown the shuttle the spring N throws the picker-stick back in the inverse direction of the arrow x'.

To prevent the undue hammering noise of the picker-stick striking against the bumpers B' B² the device is adjusted in the following manner: The screws Q Q in the rings P P are loosened and the picker-stick is adjusted so that its upper end is a certain distance, more or less, from the bumper B' and then the screws Q Q are tightened. When the picker-stick is moved in the inverse direction of the arrow x' by the expanding spring N the filling check-spring M is thereby compressed and the force of the picker-stick is diminished by the compression of the spring M to such an extent that it cannot strike against the bumper B' with sufficient force to make any undue noise.

By means of the rings P P and screws Q Q the picker-stick can be adjusted for any desired position and for any kind of filling used in a loom. In case box-work is to be made on the loom the spring W comes into play, as it locks the picker-stick A in the position of rest in the manner shown in Fig. 1 during the time that the boxes are being shifted. When the picker-stick is swung in the direction of the arrow x' the spring W is unlocked automatically and its recess W² is withdrawn from the guide K. When the picker-stick moves in the inverse direction of the arrow x' the beveled end W³ of the spring W strikes against the top of the guide K and slides over the same to permit the recessed part of the spring W to engage said standard. The collar R on the end of the rod J prevents the loom-fixer from adjusting the spring N in

such a manner as to act too forcibly on the picker-stick, as it prevents the spring from giving the stick too much throw. The tension of the spring N can easily be adjusted by means of the collar O on the rod J.

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

1. The combination, with a reciprocating rod; of two guides in which the rod can reciprocate, a helical spring surrounding said rod between one guide and a collar on said rod, an additional helical spring surrounding said rod between the other side of the above-mentioned guide and a clip on the end of the rod, and an extensible rod connecting the clip on the reciprocating rod with the picker-stick, substantially as set forth.

2. The combination, with a picker-stick, of a clip bolted to the lower end of the same, an extensible rod fixed to said clip, a rod reciprocating in suitable guides, a spring surrounding said reciprocating rod, and an adjustable collar on the reciprocating rod, against which collar one end of the spring rests, substantially as set forth.

3. The combination, with the picker-stick A, of the reciprocating rod J, the guide K for

the same, an extensible rod connecting the picker-stick with the rod J, the clip H on the end of the rod J, the helical spring M, surrounding the rod J between the clip H and guide K, the helical spring N, surrounding the rod J, and the adjustable collar O on said rod, substantially as set forth.

4. The combination, with the picker-stick A, of the reciprocating rod J, surrounded by the springs M and N, fixed guides for said rod, an extensible rod connecting the picker-stick with the rod J, and the lock-spring W, secured on one end of the reciprocating rod, adapted to engage one of the fixed guides, substantially as set forth.

5. The combination, with a picker-stick, of a reciprocating spring-actuated rod, means for connecting said rod with the picker-stick, and a lock-spring on the end of said rod, which lock is adapted to engage a fixed object, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHN S. GRAY, SR.

Witnesses:

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