No. 662,741. Patented Nov. 27, 1900.

B. S. ROY.

SHUTTLE ACTUATING MECHANISM FOR LOOMS.

(Application filed Mar. 9, 1898.)

(No Model.)

Fig. 1.

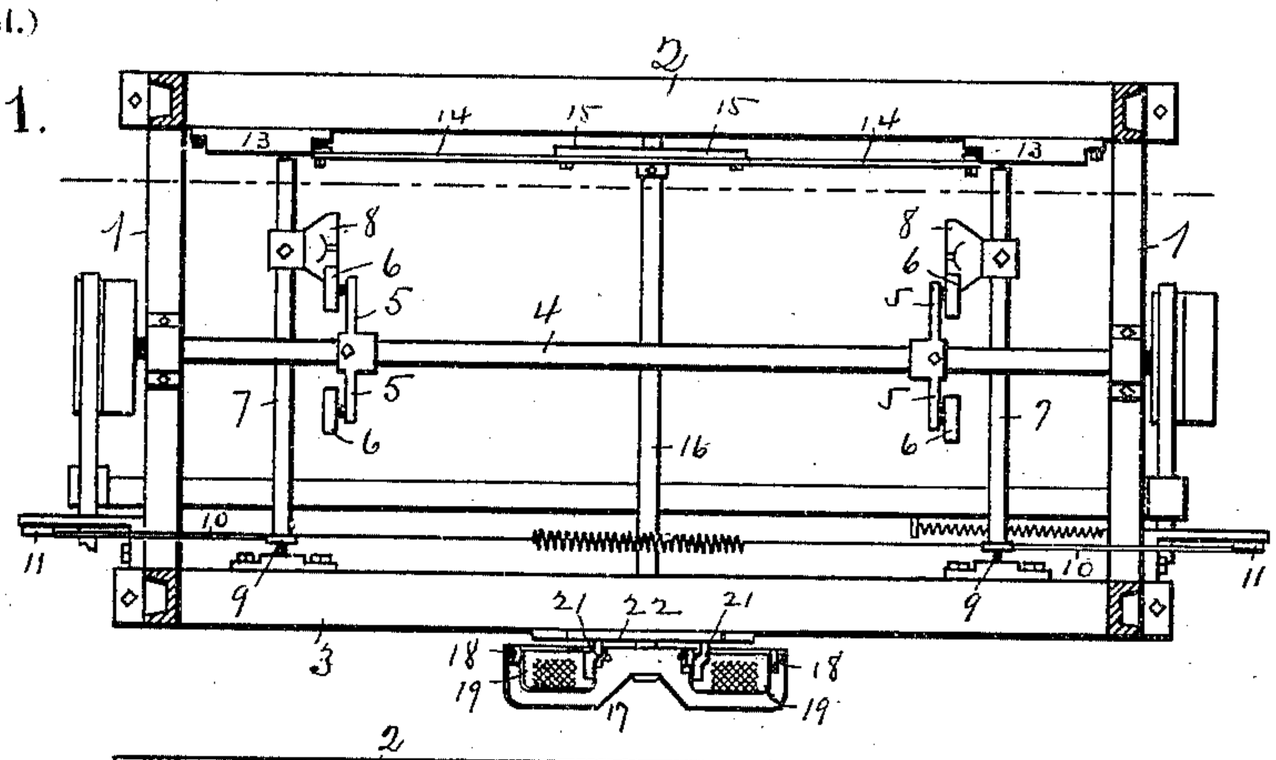


Fig. 2.

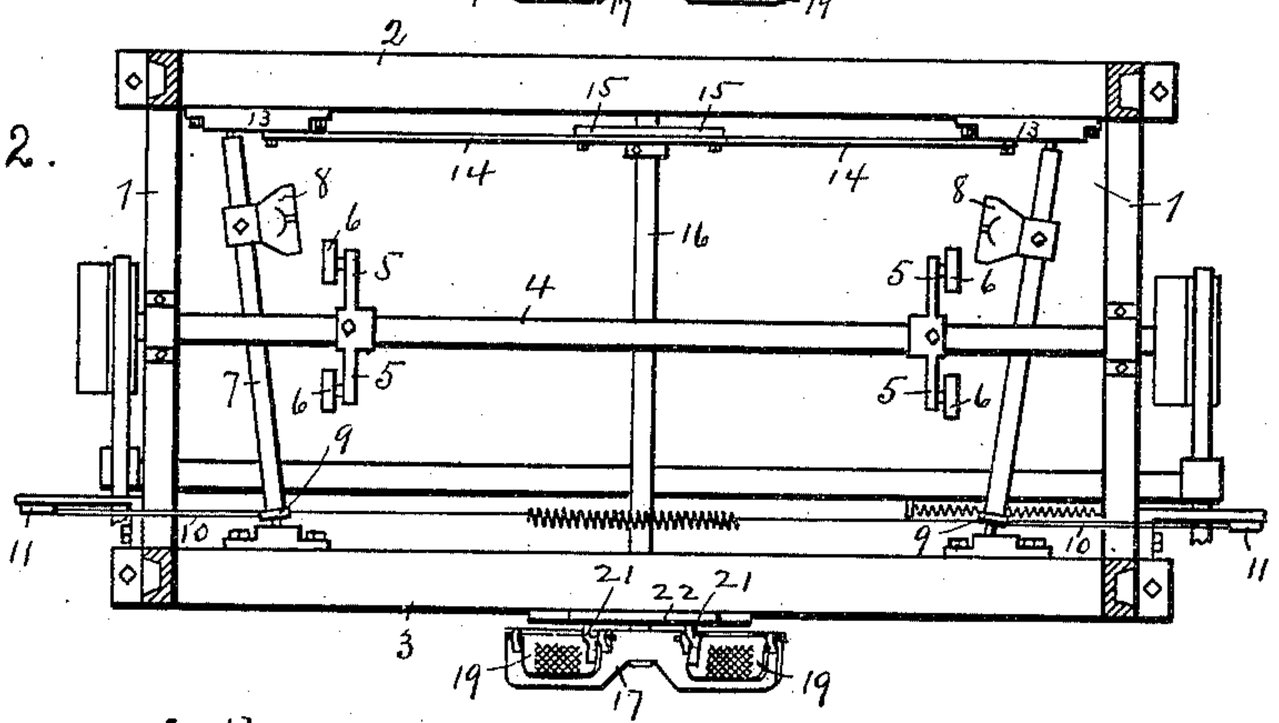


Fig. 3.

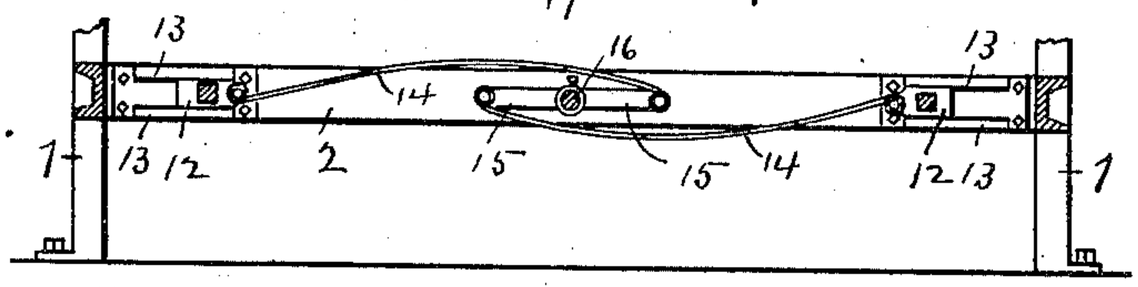


Fig. 4.

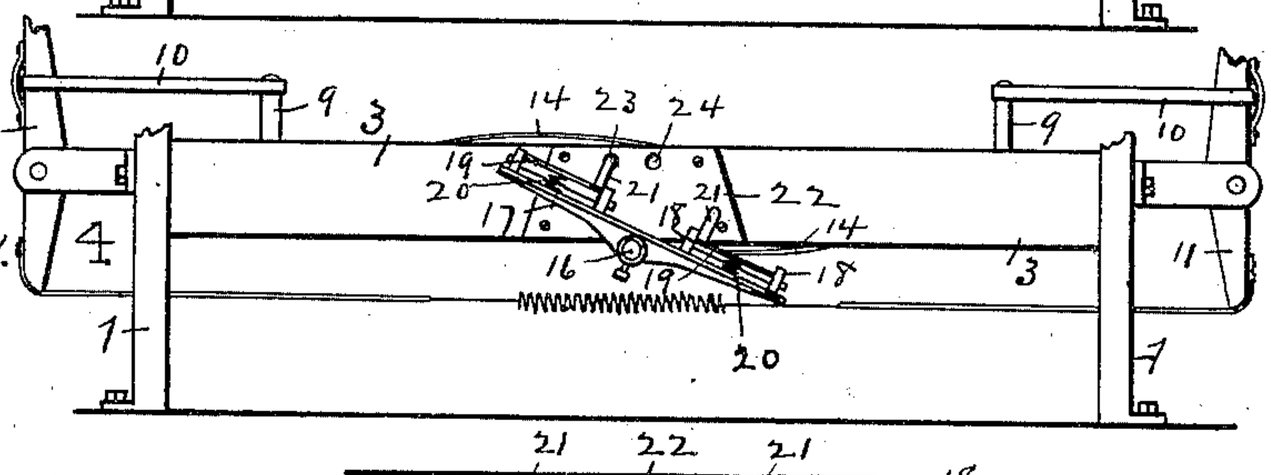


Fig. 5.

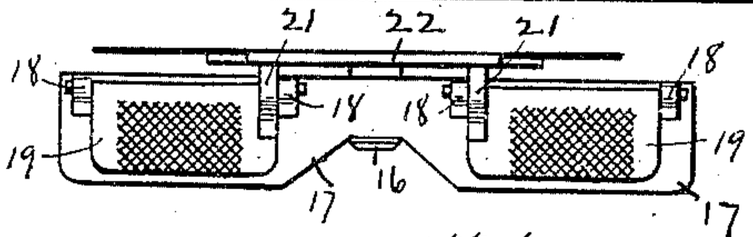
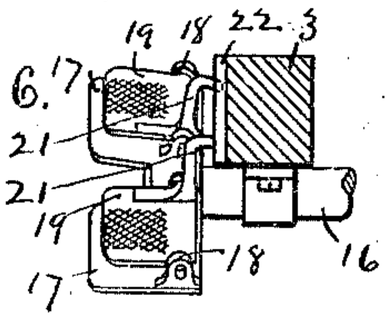


Fig. 6.



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BOZIL S. ROY, OF WORCESTER, MASSACHUSETTS.

SHUTTLE-ACTUATING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 662,741, dated November 27, 1900.

Application filed March 9, 1898. Serial No. 673,169. (No model.)

To all whom it may concern:

Be it known that I, BOZIL S. ROY, a citizen of the United States, and a resident of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in a Shuttle-Actuating Mechanism for Looms, of which the following is a specification, accompanied by drawings forming a part of the same, in which—

Figure 1 represents a horizontal sectional view of the lower portion of a loom, showing in plan view that portion of the shuttle-actuating mechanism which embodies my present invention, the several operating parts being shown in their normal position when the loom is in operation. Fig. 2 represents the same view as that shown in Fig. 1, but with the rocking picker-shafts shifted so as to carry the shoes attached to the picker-shaft out of the path of the sweeps carried upon the rotating shaft of the loom. Fig. 3 is a vertical sectional view on line 3 3, Fig. 1, showing a portion of the mechanism by which the picker-shafts are shifted. Fig. 4 is a front elevation of the lower portion of the loom which is represented in plan view in Figs. 1 and 2. Fig. 5 is a plan view of the rocking foot-treadle shown on a larger scale than in the preceding figures, and Fig. 6 is an end view of the rocking foot-treadle.

Similar figures refer to similar parts in the different views.

The object of my present invention is to provide means by which the operator can at will connect the shuttle-actuating mechanism with the driving power or disconnect the same, so that the other parts of the loom can be run without driving the shuttle through the warp-shed.

Referring to the accompanying drawings, 1 1 denote that portion of the framework known as the "loom sides."

2 is a girth connecting the loom sides at the rear of the loom, and 3 a similar girth connecting the loom sides at the front of the loom.

4 denotes a rotating shaft carrying radial arms or sweeps 5, provided with rolls 6, which turn loosely upon studs held in the free ends of the sweeps 5.

7 7 denote the rocking picker-shafts having their ends journaled in bearings supported by the framework of the loom. The rocking picker-shafts 7 7 are provided with arms or shoes 8 8, which in their normal position lie in the paths of the rolls 6 as they are carried around by the rotation of the shaft 4. Arms 9 9, carried by the rocking shafts 7 7, are connected by means of straps 10 10 with the picker-staves 11 11 in the usual and well-known manner. As the shaft 4 rotates the shoes 8 8 will be struck by the rolls 6, thereby depressing the shoes and imparting a short, quick, rocking motion to the picker-shafts 7 7, and through the arms 9 9 and straps 10 10 to the picker-staves 11 11 in the usual manner. The rear ends of the rocking picker-shafts 7 7 are journaled in sliding boxes 12 12, sliding in ways 13 on the inner side of the rear girth 2. The sliding boxes 12 12 are connected by links 14 14 with the ends of radial arms 15 15, carried upon a rocking shaft 16, which is journaled in bearings supported by the front and rear girths. The forward end of the rocking shaft 16 is provided with a two-armed foot-treadle 17, provided on its upper side with lugs 18, in which are hinged the foot-plates 19 19, between which and the foot-treadle are spiral springs 20, with their tension applied to the under side of the foot-plates 19 to lift them from the treadle 17.

The foot-plates 19 19 are provided with fingers 21 21, having their ends bearing against a plate 22, attached to the front side of the girth 3, and having holes 23 and 24 arranged to alternately receive the ends of the fingers 21 21 as the foot-treadle is rocked, thereby locking the foot-treadle at each end of its rocking motion.

The rocking motion of the foot-treadle in one direction will carry the radial arms 15 15 from the position shown in Fig. 1 to that represented in Fig. 2, and the reverse motion of the foot-treadle will reverse the arms 15 15. When the arms 15 15 are in the position shown in Fig. 1, the sliding boxes 12 12 are drawn toward the center of the loom, bringing the rocking picker-shafts into their normal position, with the shoes 8 8 lying in the paths of the rolls 6. In order to disconnect the shuttle-actuating mechanism and render it inoperative while the loom is still in motion, the operator depresses the foot-plate carried by the highest end of the foot-treadle and withdraws

one of its fingers 21 from the holes 23 in the plate 22, thereby unlatching the foot-treadle and connected mechanism. The continued pressure upon the foot-treadle will rock the shaft 16 and carry the radial arms from the position shown in Figs. 1 and 3 to that shown in Fig. 2, thereby sliding the boxes 12 12 outwardly and carrying the shoes 8 8 out of the paths of the rolls 6. The rocking of the foot-treadle will carry the opposite end upwardly, so that the opposite finger 21 will engage the hole 24 in the plate 22 and lock the foot-treadle. When it is desired to again connect the shuttle-actuating mechanism with the driving power of the loom, the foot-treadle is reversed, thereby withdrawing the finger from the hole 24 and carrying the arms 15 15 back into the position shown in Figs. 1 and 3 and again locking the mechanism in position by the engagement of one of the fingers 21 with the hold 23 in the plate 22.

The ends of the rocking picker-shafts 7 7 are so journaled in their respective bearings as to permit the sliding motion of the boxes 12 12 without interfering with the free movement of the shafts. I am aware that it is not new to disengage the shuttle-actuating mechanism from the driving power of the loom by carrying the shoes out of the paths of their actuating-rolls. This result has also been accomplished by journaling the rear ends of the picker-shafts in boxes capable of sliding in ways by means of connected actuating mechanism.

My present invention relates to the mechanism herein described by which the shuttle-actuating mechanism is connected with or disconnected from the driving power of the loom by the act of the attendant and by which it is automatically locked in either its operative or inoperative position.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with the picking mechanism of a loom, of a rocking shaft and connected mechanism by which the rocking of said shaft will carry said picking mechanism into and out of action, a foot-treadle projecting from opposite sides of said rocking shaft, mechanism for automatically latching said treadle at each end of its rocking motion, and foot-plates hinged to said treadle and operatively connected to said latching mechanism, whereby the pressure applied to said foot-plates in depressing the treadle will disengage said latching mechanism, substantially as described.

2. The combination with the rocking picker-shaft of a loom provided with a projecting arm or shoe, of a movable bearing supporting said rocking picker-shaft, a rocking shaft operatively connected with said movable bearing, a foot-treadle attached to said shaft, foot-plates hinged to said treadle, fingers projecting from said foot-plates, a fixed plate provided with holes to receive said fingers, and springs applied to said foot-plates to carry said fingers into the holes in said fixed plate, thereby automatically locking said treadle at each end of its rocking movement, substantially as described.

3. The combination of picker-shafts 7, 7 carrying shoes 8, 8, and journaled in sliding boxes 12, 12, a rocking shaft 16 operatively connected with said sliding boxes, a foot-treadle attached to said shaft 16, a fixed plate 22 attached to the framework of the loom and provided with holes 23 and 24, foot-plates 19, 19 hinged to said foot-treadle and provided with fingers 21, 21, and springs adapted to carry said fingers into said holes as the foot-treadle is rocked, substantially as described.

Dated this 4th day of March, 1898.

BOZIL S. ROY.

Witnesses:
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RUFUS B. FOWLER.