

W. J. LUTTON.

LOOM.

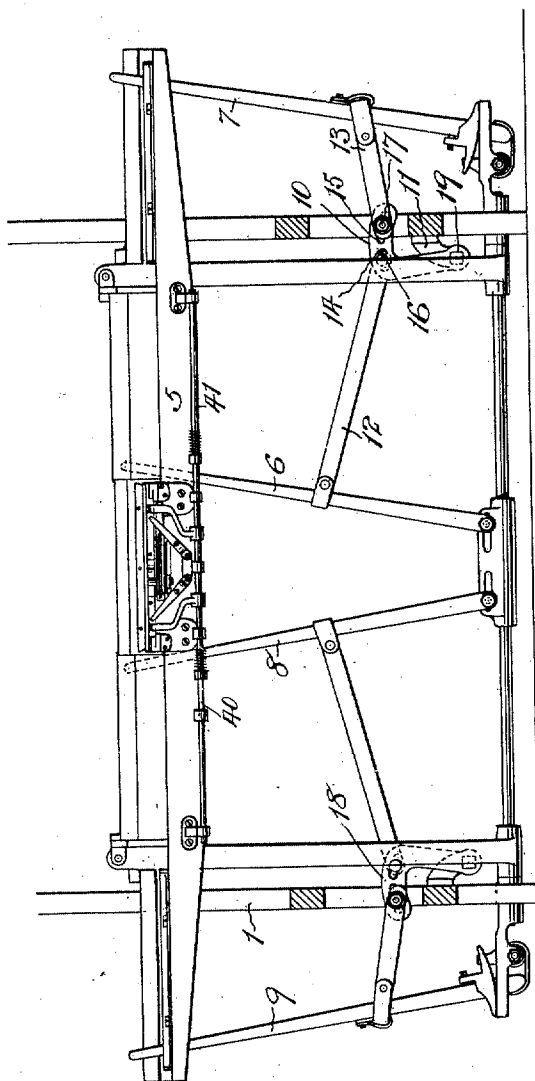
APPLICATION FILED SEPT. 10, 1907.

Patented Mar. 7, 1911.

2 SHEETS—SHEET 1.

986,073.

Fig. 1.



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Inventor:

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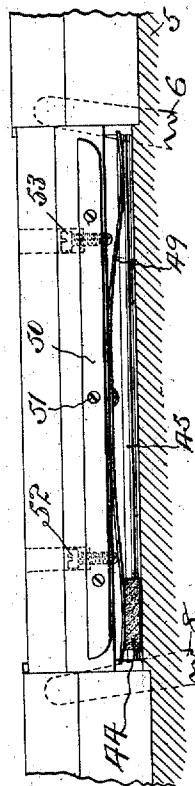
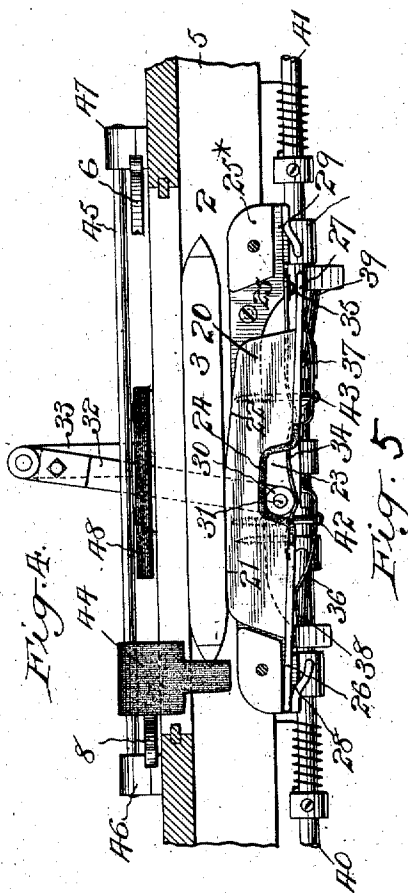
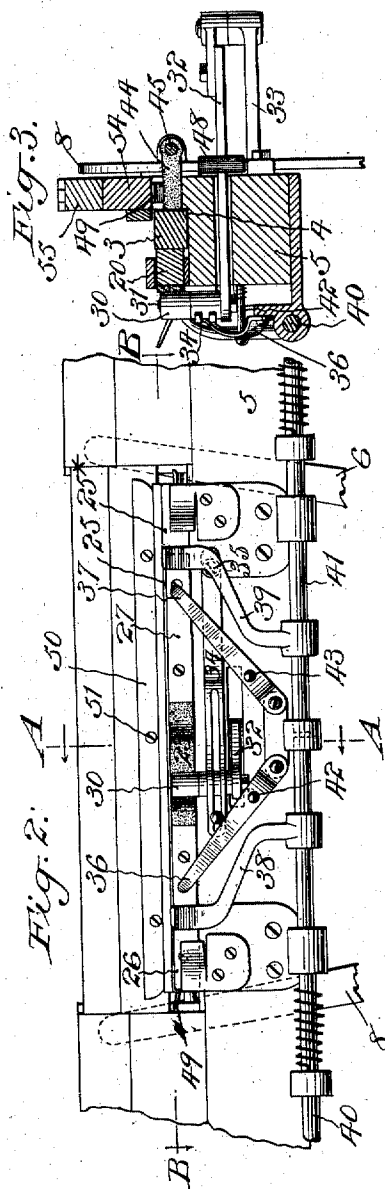
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Witnesses:  
*F. George Barry.*  
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Inventor:  
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# UNITED STATES PATENT OFFICE.

WILLIAM J. LUTTON, OF PATERSON, NEW JERSEY.

LOOM.

986,073.

Specification of Letters Patent.

Patented Mar. 7, 1911.

Application filed September 10, 1907. Serial No. 392,107.

*To all whom it may concern:*

Be it known that I, WILLIAM J. LUTTON, a citizen of the United States, and a resident of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Looms, of which the following is a specification.

My invention relates to looms and more particularly to the mechanism which coöperates with the shuttle at the middle shuttle box on a double loom, and to means for connecting the picker sticks which work in unison.

In the accompanying drawings, Figure 1 is a view in front elevation of so much of a double loom as will suffice to show the location and operation of the several parts to which my present invention pertains with respect to the loom as a whole. Fig. 2 is an enlarged partial front elevation at the central portion of the loom, Fig. 3 is a vertical section in the plane of the line A—A of Fig. 2, Fig. 4 is a horizontal section in the plane of the line B—B of Fig. 2, and Fig. 5 is a partial longitudinal vertical section showing the picker retarding mechanism in front elevation.

The loom frame is denoted by 1 and may be of any well known and approved form suitable for the purpose. The central shuttle box common to the shuttles from the opposite sides of the loom is denoted by 2, the shuttle being arranged to travel along a suitable way 4 in the beam 5. One set of picker sticks for operating the shuttles is denoted by 6, 7 and the set on the opposite side of the loom by 8, 9. These picker sticks extend as usual up into position to operate the shuttle to send it from the side of the loom toward the center and from the center back again to the side of the loom. The picker sticks 6, 7 are connected to move in unison by means of a bent link 10 pivotally secured at the extremity of one arm to a bracket 11 on the main frame, a rod 12 extending from the knuckle or angle of the bent link 10 to the picker stick 6 and a bar 13 extending from the opposite end of the bent link to the picker stick 7. The connections of the bars 12 and 13 with the bent link 10 are made by means of elongated slots 14, 15, in the link through which connecting bolts 16, 17, extend into the bars 12 and 13 to adjust the picker sticks in the desired relation to the shuttle. In like manner the picker sticks 8, 9 are connected to move in unison by a bent

link 18 in a manner quite similar to that hereinabove described with respect to the picker sticks 6 and 7. The bent link 10 rocks on a pivotal pin 19 on the bracket 11 and the bent link 18 similarly rocks on the corresponding bracket on the main frame.

Projecting into the path of the shuttle 3 within the box 2, the box 2 being a continuation of the raceway along the beam 5, there is a binder 20, the face of the binder 20 toward the shuttle being tapered in opposite directions from the central pin forming the inclined engaging faces 21, 22. At its opposite edge the binder 20 is provided with a recess 23 preferably lined with leather 24. The binder 20 is received in a slot 25 formed in a supporting piece 25\* secured to the beam 5 and projecting from its opposite ends at its back, there are flat extensions 26, 27, which are adapted to enter tapered slots 28, 29, opening from the slot 25 in the supporting piece 25\*. The slot 25 is sufficient alone to permit the binder 20 to move endwise to a limited extent a distance sufficient to place it in position for receiving the shuttle from each of two opposite sides of the loom on one of its oblique faces beyond the center of the loom computing from the side from which the shuttle is advancing toward the central shuttle box. The binder 20 is held in tilting adjustment on a roller 30 mounted on a pin 31 extending laterally from a swinging arm 32 pivotally secured to the bracket arm 33, the latter being attached to the beam 5. A spring keeper 34 attached to the supporting piece 25\* at 35, serves to hold the roller 30 within the recess 23 and gently presses the roller against the leather lining 24. The roller has a play within the recess 23 and as the arm 32 carrying the roller 30 is swung, the roller will be permitted to move the length of the recess 23 before moving the binder 20 and as it does so, the roller will ride on the spring 34 past the center of the binder 20. The arm 32 will then press in the opposite end of the binder and with it the extension 27, into position to enter the tapered opening 29 toward which the binder is to be thrown for the reception of a shuttle from the opposite direction from that which it last received one. Auxiliary pressure springs 36, 37, are made fast to the beam 5 or to a projection on said beam, and bear against the back of the binder to force it toward the shuttle. Arms 38, 39, fixed to the spring-actuated

shafts 40, 41, press against the back of the binder to force it into the path of the shuttle whenever the shuttle leaves the box, and in entering the box the shuttle is retarded by the spring pressure exerted on the binder through these arms. The tension of the auxiliary pressure springs 36, 37, is regulated by means of screws 42, 43, passing through the spring and into the beam 5.

- 10 A picker 44 built up of leather or other suitable material is mounted on a rod 45 supported at the back of the beam 5 in brackets 46, 47, in position to be slid along the rod by the picker sticks 6 and 8 and projecting into position to engage and move the shuttle along the raceway.

A buffer 48 built up of leather or other suitable material is mounted on the frame 32 in the path of the picker sticks 6 and 8, so that as the picker stick hits the end of the buffer, the latter will be moved together with the arm 32, bringing the picker stick to a stop and at the same time swing the arm 32, the latter carrying along with it the binder 20, from one end of the slot 25 to the opposite end thereof.

- To prevent the picker 44 from rebounding when it has been thrown back with the shuttle by the action of either one of the picker sticks 6 or 8, I provide a light retarding spring 49, see Fig. 5, which is arranged to exert light pressure upon the picker 44 as it nears the limit of its sliding movement in each of two opposite directions. The spring 49 is made fast to the rail 54 by means of a screw 51 and the necessary amount of tension is applied to the spring 49 at each of its opposite ends by means of adjusting screws 52, 53, set in the rails 54, 55.

- In operation, assuming the shuttle to be in the position shown in full lines in Fig. 4, the picker stick 8 striking the picker 44, throws the shuttle back toward the side of the loom, and in so doing the picker is thrown over into the position to be again acted on by the picker stick 6, the picker being retained in its position by the spring 49. The same movement of the picker stick 8 when it strikes the buffer 48, will swing the arm 32, first moving the roller 30 to the opposite end of the recess 23 and then, the binder 20 having been tilted into position for its extension to enter the tapered recess 29, the binder will be carried bodily along the recess 25 until its extension 27 occupies the same relative position in the recess 29 that the extension 26 is shown in full lines to occupy in the recess 28. The binder 20 will now be in position to receive a shuttle from the opposite side of the loom and engage the shuttle along its inclined face 22, the face 21 being tilted out of engagement with the shuttle leaving the latter free to be returned by the picker stick 6.

What I claim is:

1. In a loom, the combination with a shuttle box common to shuttles from opposite sides of the loom, of a tilting binder and means for moving the binder bodily in a longitudinal direction along the box.

2. In a loom, the combination with a shuttle box, of a tilting binder projecting into the box, the binder being provided with oppositely inclined faces for engaging the shuttle and means for moving the binder bodily in a longitudinal direction along the shuttle box.

3. In a loom, the combination with a shuttle box, of a binder projecting into the shuttle box and provided with a recess in its back, an arm provided with a roller projecting into said recess and means under the control of the picker stick for operating the arm and thereby moving the binder bodily along the box.

4. The combination with a shuttle box, of a tilting binder projecting into the shuttle box and provided with a recess in its back, a swinging arm provided with a roller engaging in said recess and means under the control of the picker stick for operating the arm and thereby moving the binder bodily along the shuttle box.

5. The combination with a shuttle box, of a binder projecting into the box, a swinging arm arranged to engage the binder at opposite sides of its center and means under the control of the picker stick for operating the arm and thereby shifting the engagement of the arm with the binder.

6. The combination with a shuttle box, of a binder projecting into the shuttle box, a swinging arm arranged to engage the binder on opposite sides of its center, a spring for yieldingly maintaining engagement between the arm and the binder and means under the control of the picker stick for operating the arm and thereby shifting the engagement of the arm with the binder.

7. The combination with a shuttle box provided with a binder support having a slot for the reception of the binder and tapered recesses at the opposite ends of the slot, of a tilting binder seated in the slot and arranged to move bodily along the slot, the said binder being provided with projections at its opposite ends to enter the said tapered recesses and means under the control of the picker stick for moving the binder bodily along the slot.

8. The combination with the shuttle box, of a binder supported to move bodily along the box, pressure springs for engaging the back of the binder upon opposite sides of the center, means for regulating the tension of the springs and means under the control of the picker stick for moving the binder bodily along its support.

9. The combination with a shuttle box, of

a tilting binder projecting into the box, a swinging arm for operating the binder and a buffer carried by the arm in position to engage a picker stick to operate the arm and hence the binder.

5 In testimony, that I claim the foregoing as my invention, I have signed my name in

presence of two witnesses, this seventh day of September 1907.

WILLIAM J. LUTTON.

Witnesses:

THOMAS W. RANDALL,  
CHARLES F. MOREHEAD.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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