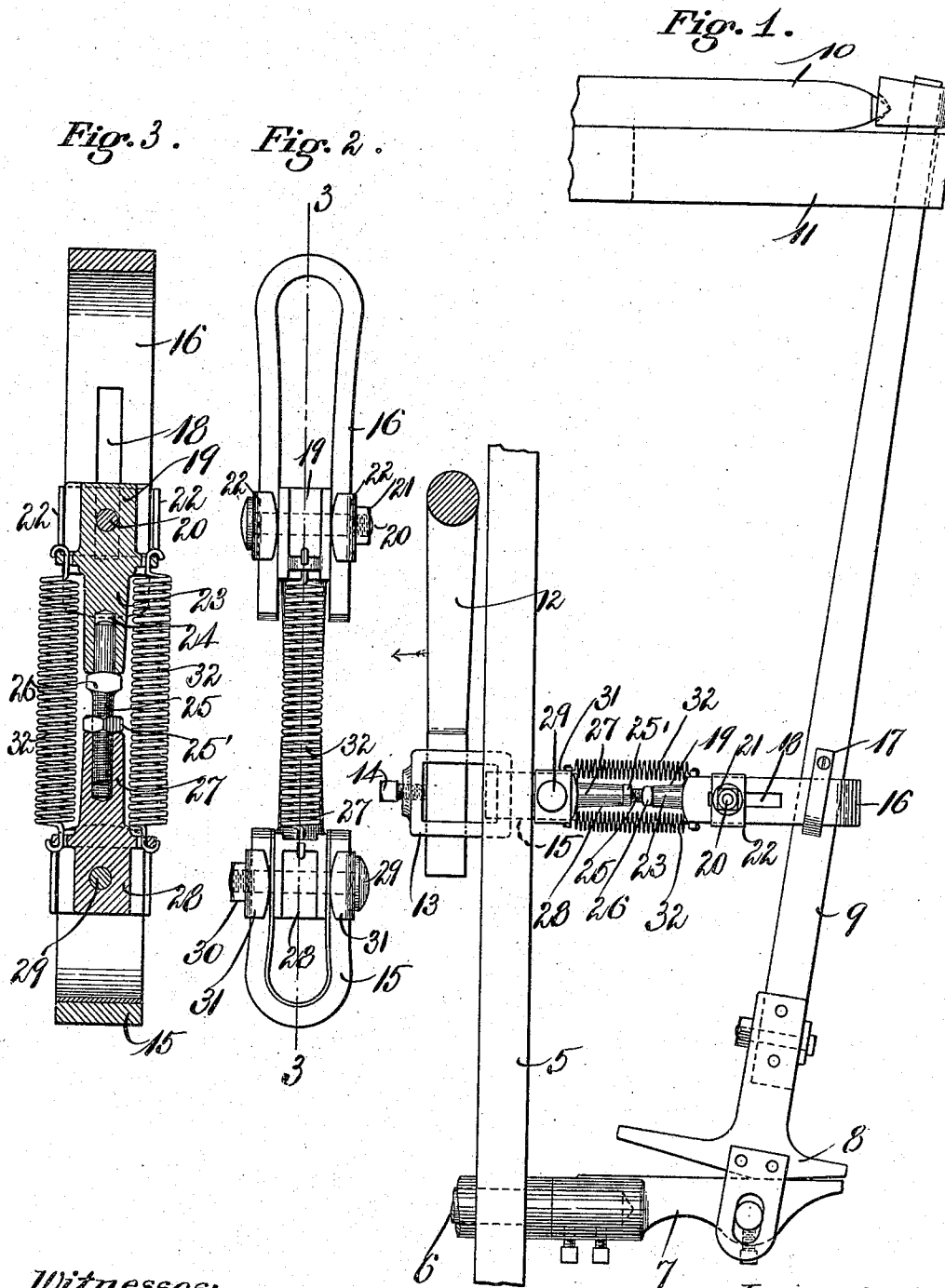


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 PICKER STICK MECHANISM FOR LOOMS.  
 APPLICATION FILED NOV. 29, 1907.

939,560.

Patented Nov. 9, 1909.



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# UNITED STATES PATENT OFFICE.

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PICKER-STICK MECHANISM FOR LOOMS.

939,560.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed November 29, 1907. Serial No. 404,353.

*To all whom it may concern:*

Be it known that I, LEWIS P. SHERMAN, a citizen of the United States, residing at Biddeford, in the county of York and State of Maine, have invented new and useful Improvements in Picker-Stick Mechanism for Looms, (Case A,) of which the following is a specification.

This invention relates to an improvement in the picker stick mechanism of a loom and is more particularly directed to the lug strap, so-called, which connects the picker stick to the picker-shaft arm, that is, to the arm which imparts a rocking motion to the picker stick. In looms as at present constructed the connection from the picker shaft arm to the picker stick is substantially unyielding and when the picker stick arrives at the end of its stroke in driving the shuttle across the shed a strain is often brought to bear upon said picker stick, due to the improper adjustment of the lug strap and to the unyielding nature of the same, which causes the picker stick to be broken.

The object of this invention is to overcome this difficulty and to that end I have produced an elastic connection, or, as a whole, an elastic yielding lug strap connecting the picker stick to the picker shaft arm.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings: Figure 1 is a front elevation of a picker stick with my improved elastic lug strap connection attached thereto and shown in connection with a picker arm and also in connection with a portion of a shuttle, which is broken away to save space, as well as the lay beam shown in connection therewith, a portion of the frame of the loom and the rock-shaft of the lay being also shown in this figure of the drawings, the frame being broken away to save space, and a picker arm is also shown with its pivotal shaft in section. Fig. 2 is a plan view of the lug strap connection. Fig. 3 is a sectional elevation taken on line 3—3 of Fig. 2.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is a portion of the loom

frame, 6 the pivotal shaft of the lay, 7 the shoe fast to said shaft, 8 the rocker adapted to rock upon said shoe and 9 the picker stick.

10 is the shuttle, 11 a portion of the lay beam and 12 the picker shaft arm. 13 is a collar adjustably fastened by a set-screw 14 to the lower end of said picker-shaft arm.

The "lug-strap" as a whole consists of two loops 15 and 16, each preferably formed of a flexible strap, the loop 15 being connected to the collar 13 and thus to the picker shaft arm 12, while the loop 16 encircles the picker stick and is held against longitudinal movement with relation thereto by a clip 17. The loop 16 is provided with slots 18 and the free ends of said loop straddle a block 19. A bolt 20 extends through the slots 18 in the loop 16 and through the block 19. Said bolt is provided with a nut 21 and clamp-plates 22, 22 are inserted between the nut 21 and the loop 16 and also between the head of the bolt and the loop 16, so that by screwing up on the nut 21 the free ends of the loop 16 are clamped by the bolt 20, nut 21 and clamp-plates 22 firmly against the opposite sides, respectively, of the block 19.

The block 19 is provided with a cylindrical extension 23 and this extension is provided with a recess 24 adapted to receive one end of a rod 25 which is slidable within said recess longitudinally thereof. The rod 25 has a rectangular flange 26 thereon by means of which it may be rotated and has screw-threaded engagement with an extension 27 upon another block 28. A locking nut 25' having screw-threaded engagement with the rod 25, locks the same against rotation relatively to the block 28. The loop 15 is fastened to the block 28 by means of a bolt 29, nut 30 and clamp-plates 31, 31. Two springs 32, 32 are connected at their opposite ends, respectively, to the blocks 19 and 28.

In the device hereinbefore described the part known as the "lug stick" to those skilled in the art consists of the two blocks 19 and 28 and the rod 25, while the part known in this art as the "lug strap" is replaced in my improved construction by the parts forming the lug stick, as hereinbefore set forth, viz., the rod 25 and blocks 19 and 28, together with the loops 15 and 16 and the means by which said loops are fastened to

the blocks, said means preferably being the bolts 20 and 29 and their respective clamp-plates.

The operation of the device hereinbefore specifically described is as follows: Assuming the parts to be in the positions illustrated in Fig. 1, the rocker arm is given a movement in the direction of the arrow thereon by mechanism well known to those skilled in the art, thus rocking the picker stick 9 and rocker 8 upon the shoe 7, thus driving the shuttle 10 to the opposite side of the shed. When the upper end of the picker stick brings up against the inner end of the slot in the lay beam, any further movement upon the picker shaft arm 12 in the direction of the arrow will cause the springs 32, 32 to be extended, while the loop 15 and block 28, together with the rod 25, will be moved away from the block 19, loop 16 and picker stick 9, the smooth portion of the rod 25 sliding in the extension 23 to admit of this extension of the connection between the picker shaft arm and the picker stick. It will be further noted that the loop 16 and block 19 may be rotated upon and relatively to the rod 25, block 28 and loop 15, the extension 23 in such case rocking upon the smooth portion of the rod 25, so that as the lay rocks forward and backward, together with the picker stick and the shoe 7, this partial rotation of the block 19 with relation to the block 28 may take place, the springs 32, 32 yielding slightly to accommodate this rocking motion.

It will be seen that the tension upon the springs 32, 32 may be increased or diminished and the distance between the blocks 19 and 28 correspondingly increased or diminished by rotating the nut 25' in one direction upon the screw-threaded portion of the rod 25 to unlock the rod 25 from the block 28 into which it is screw-threaded and then rotating said rod, by means of the rectangular flange 26 thereon, in the desired direction to either screw the rod into the extension 27 or out of said extension, finally locking the rod to the extension 27 of the block 28 by setting up the lock-nut 25'.

It is evident that if desired the blocks 28 and 19 may be moved away from each other in the manner hereinbefore described to increase the tension upon the springs 32, 32 and the lug stick, as a whole, may be of the same length as before this adjustment took place by adjusting the loop 16 relatively to its block 19, which is rendered possible by means of the slot 18 through which the clamp bolt 20 projects. For instance, if it is desired to increase the tension on the springs 32, 32 the blocks 19 and 28 are moved apart by means of the rod 25, as hereinbefore described, and the increase in length thus imparted to the lug strap as a

whole is compensated for by loosening the clamp-bolt 20 and moving the loop 16 toward the left (Fig. 1) until the lug strap as a whole is the same length as before the extension of the lug stick took place, then clamping the loop 16 to the block 19 by means of the bolt 20 and nut 21, as hereinbefore described.

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

1. A picker stick mechanism having in combination, a picker stick, a picker shaft arm, a lug stick connected to said picker stick and said arm, said lug stick consisting of two blocks slidably connected together and rotatable relatively to each other, means to adjust said blocks toward and away from each other, and means connecting said blocks to each other and adapted to draw them toward each other.

2. A picker stick mechanism having in combination, a picker stick, a picker shaft arm, a lug stick connected to said picker stick and said arm, said lug stick consisting of two blocks slidably connected together and rotatable relatively to each other, means to adjust said blocks toward and away from each other, and a spring connecting said blocks to each other and adapted to draw them toward each other.

3. A picker stick mechanism having in combination, a picker stick, a picker shaft arm, a lug stick connected to said picker stick and said arm, said lug stick consisting of two blocks, and a rod connecting said blocks to each other, said rod having screw-threaded engagement with one of said blocks and slidable within the other of said blocks, and means tending to draw said blocks toward each other whereby said lug stick is adapted to be extended when said picker stick strikes an object during its power stroke.

4. A picker stick mechanism, having in combination, a picker stick, a picker shaft arm, a lug stick connecting said picker stick and said arm, said lug stick consisting of two blocks, a rod connecting said blocks to each other, said rod having screw-threaded engagement with one of said blocks and slidable within the other of said blocks, and a spring arranged to draw said blocks toward each other, said lug stick being constructed and arranged to be extended when said picker stick strikes an object during its power stroke.

5. A picker stick mechanism, having in combination, a picker stick, a picker shaft arm, a lug stick connecting said picker stick and arm, said lug stick consisting of two blocks, a rod connecting said blocks together, said rod having screw-threaded engagement with one of said blocks and slid-

able within the other of said blocks, and means adapted to draw said blocks toward each other, said lug stick being constructed and arranged to be extended when said  
5 picker stick strikes an object during its power stroke.

In testimony whereof I have hereunto

set my hand in presence of two subscribing witnesses.

LEWIS P. SHERMAN.

Witnesses:

FRANK E. MOSES,  
ABEL DENNETT.