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2,586,065

LOOM PICKER

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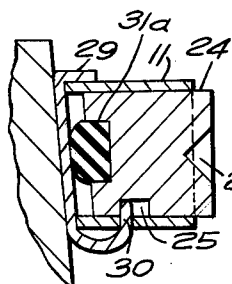


Fig. 6

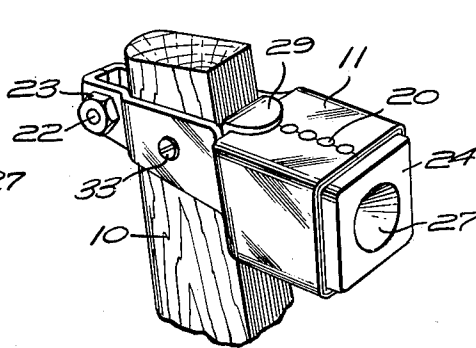


Fig. 1

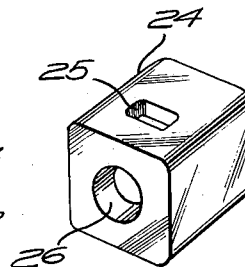


Fig. 2

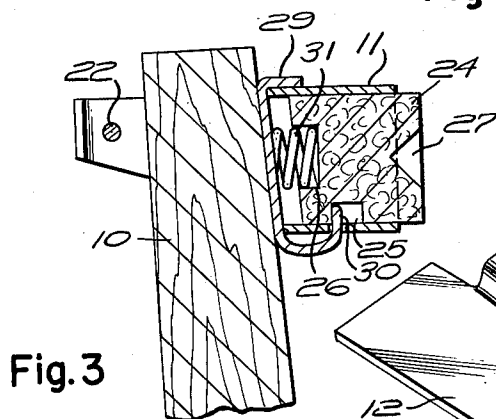


Fig. 3

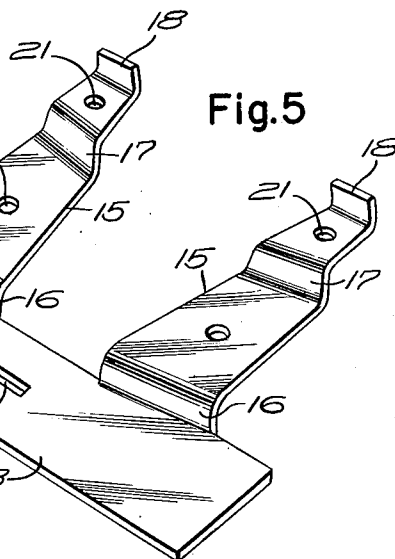


Fig. 5

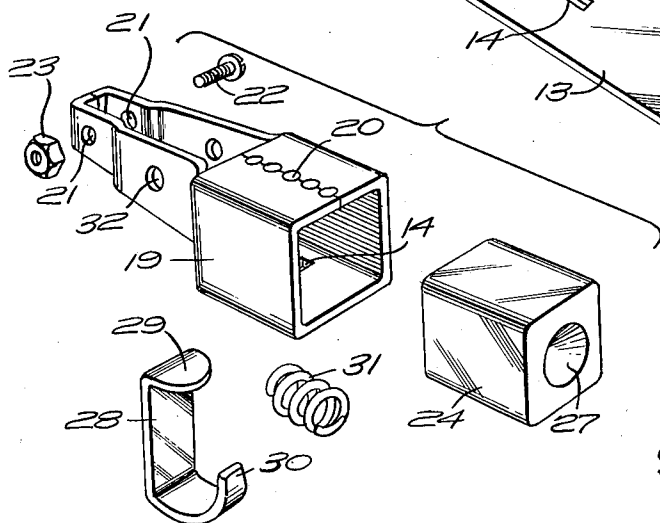


Fig. 4.

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LOOM PICKER

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3 Claims. (Cl. 139—159)

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This application is a continuation in part of my copending application, Serial No. 101,525, filed June 27, 1949, now Patent No. 2,546,643, entitled Sheet Metal Loop Picker.

My present invention relates to loom pickers, and more particularly to a novel shock-absorbing picker.

In my copending application, referred to above, I have described the many advantages of the sheet metal construction shown therein. The present invention embodies all the advantages of that application. However, I have found that certain types of shuttles do not stand up under the shock of the picker head. One of the features of the present invention is a built-in shock absorbing device which in fact makes a shock absorber out of the picker head. This greatly prolongs the life of the shuttle and of the picker head itself.

Another object of the present invention is to provide a picker head box and replaceable picker head combination which is rapid and easy to assemble and permits ready replacement of the picker head.

With the above and other objects and advantageous features in view, my invention consists of a novel arrangement of parts, more fully disclosed in the detailed description following, in conjunction with the accompanying drawings, and more particularly defined in the appended claims.

In the drawings,

Fig. 1 is a perspective view of the upper end of a loom picker stick having my improved picker mounted thereon;

Fig. 2 is a perspective view of the novel picker head showing the bottom and rear end;

Fig. 3 is a horizontal section of the assembly shown in Fig. 1;

Fig. 4 is an exploded perspective view of the picker assembly showing the various parts;

Fig. 5 is a perspective view of the sheet metal blank for forming the picker head holder, and Fig. 6 is a horizontal section showing a modification of the form shown in Fig. 3.

The picker of a loom takes a continuous pounding that requires the toughest material. It has been found that a resilient fibrous material stands up but has a tendency to mushroom and spread. As described in my copending application, I have devised a novel sheet metal box which holds the picker head and prevents spreading. In the construction shown herein, the tough picker head has been provided with a shock-absorbing action which prevents the metal tip of the shuttle

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from loosening and turning, and replacement of the picker head has been greatly facilitated.

The present invention is designed to eliminate a source of shuttle trouble common to silk and cotton high speed looms. The rapid impact on the shuttle eventually loosens the metal tip which has a tendency to turn slightly. This raises the edge and causes it to snag the warp threads and break or cut them. By means of the present shock-absorbing action, the force of the impact is reduced to a minimum and the shuttle tip is protected.

Referring more in detail to the drawings illustrating my invention, Fig. 1 shows the top end of a picker stick 10 on which is mounted the picker 11 embodying my invention. The picker 11 is designed so that it can readily be constructed from a strip of sheet stock by cutting, stamping and bending, thus permitting economical large scale production.

As shown in Fig. 5, the stamped out blank 12 comprises a rectangular elongated portion 13 which forms the holding box and having a centrally located slot 14. Spaced strips 15 extend integrally laterally from one side edge of the portion 13 to form the straps which hold the picker 11 on the picker stick 10. The straps 15 are stepped upwardly and bent at their junction with the portion 13, as at 16, and again at 17 towards the outer ends. The outer ends 18 are then bent upwardly as shown in Fig. 5.

To form the picker, the portion 13 is bent to form the holding box 19, Fig. 4, the edges meeting at the top and being spot-welded together, as at 20, the slot 14 being in the bottom. The blank 12 is so formed that the top wall of the box portion 19 extends rearwardly, Fig. 3, a greater distance than the bottom wall to fit accurately against the tapered wall of the picker stick 10. In this position, the arms 15 face each other to clamp around the picker stick 10, the bent ends 18 extending toward each other. The arms 15 are provided with aligned openings 21 through which a bolt 22 passes, locked by a nut 23. Tightening of the nut 23 serves to clamp the holding box 19 to the picker stick 10.

The picker head 24 is made preferably of a tough fibrous material and is provided on the bottom with a rectangular recess 25, Fig. 2, which aligns with the slot 14 in the holding box 19. The rear wall of the head 24 is provided with an annular recess 26 for a purpose hereinafter described. The front wall is provided with the usual centering cone 27.

The picker head 24 is locked in the holding box

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19 by means of a clamp 28 which extends vertically across the back of the holding box and abuts the end of the picker stick 10. The clamp 28, Figs. 3 and 4, is provided with a lip portion 29 at its upper end extending at right angles from the body portion and overlapping the top of the holding box 19. The bottom end is bent into a U-shape to form a tongue 30 which extends through the slot 14 into the recess 25 in the picker head. This locks the picker head in the holding box but permits sliding movement of the head in the box within the limits of the recess 25 as shown in Fig. 3.

To provide a shock-absorbing effect, a resilient body is interposed between the back of the picker head 24 and the body of the clamp 28. In the illustrated form, I provide a stiff spring 31 having its inner end in the annular recess 26 in the rear of the picker head. Solid rubber or any other resilient device may be substituted for the spring 31. For example, the solid rubber block 31a may be substituted for the spring 31, as shown in Fig. 6.

The picker of the present invention can be used interchangeably right or left handed. A headless locking wood screw receiving hole 32 is provided in each side strap 15, so that when the picker is correctly adjusted to the right height on the picker stick, the loom fixer may drill a hole in the picker stick 10 and insert a headless locking wood screw 33 therein to extend through the strap hole 32 without projecting beyond it. When it is desired to replace a picker head 24 in the picker head holding box 19, all the loom fixer has to do is to unclamp the tips 18 of the straps 15 of my resilient sheet metal picker 11 and spread them so that the picker may be lifted off over the projecting end of the wood screw 33 when the worn picker head 24 may be replaced by a new one in the usual manner. He may then mount the picker 11 on the picker stick 10 holding the end tips 18 still separated until the end of the projecting screw 33 is opposite its hole 32, when the tips 18 may then be again clamped together so that the end of the screw 33 projects through the hole 32 and the picker will be automatically adjusted at the right height without making another adjustment. This may be repeated as many times as necessary to replace picker heads throughout the life of the picker. In addition, said locking wood screw 33 maintains the picker in position for continued use, insuring against any tendency to slide up on the picker stick during use.

With the picker in proper adjustment, it is apparent that the head 24 will resiliently take up the shock of the shuttle sufficiently to prevent injury to the shuttle tip and prolong the life of the picker head. The resilient member 31 will allow the head 24 to slide rearwardly, under impact, the width of the recess 25, and will then move the head forwardly again ready for the next impact. This sliding action also tends to reduce mushrooming of the picker head.

To replace the head, the bolt 23 is loosened,

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the picker removed by forcing the arms 15 over the screw 33 and the clamp 28 is slipped off the holding box. This releases the head and permits it to be withdrawn and replaced without injury to the holding box.

While I have described a specific embodiment of my invention, it is obvious that changes may readily be made in the size, shape and relative arrangement of parts, without departing from the spirit and scope of the invention as defined in the appended claims.

I claim:

1. A picker comprising a rectangular sheet metal box open front and rear, strap portions extending integrally from the side edges of said box to hold said box on a picker stick, a picker head positioned slidably in said box, said picker head having a recess in the bottom wall, a clamp extending across the rear of said box and having a U-shaped tongue extending into said recess to lock said head in said box while permitting limited sliding movement of said head, and means behind said head and abutting said clamp for resiliently urging said head forwardly to absorb the shock of the impact of the loom shuttle.

2. A picker comprising a rectangular sheet metal box open front and rear, strap portions extending integrally from the side edges of said box to hold said box on a picker stick, a picker head positioned slidably in said box, said picker head having a recess in the bottom wall, a clamp extending across the rear of said box and having a U-shaped tongue extending into said recess to lock said head in said box while permitting limited sliding movement of said head, and a coil spring behind said head and abutting said clamp for resiliently urging said head forwardly to absorb the shock of the impact of the loom shuttle.

3. A picker comprising a rectangular sheet metal box open front and rear, strap portions extending integrally from the side edges of said box to hold said box on a picker stick, a picker head positioned slidably in said box, said picker head having a recess in the bottom wall, a clamp extending across the rear of said box and having a U-shaped tongue extending into said recess to lock said head in said box while permitting limited sliding movement of said head, and a block of resilient material behind said head and abutting said clamp for resiliently urging said head forwardly to absorb the shock of the impact of the loom shuttle.

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