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2,488,025

LOOM PICKER

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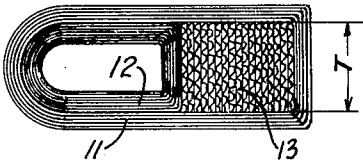


Fig. 3.

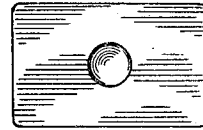


Fig. 2.

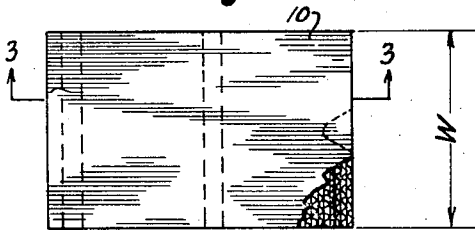


Fig. 1.

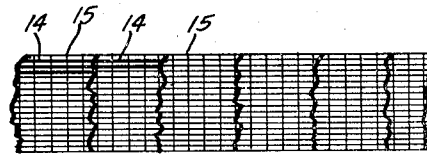


Fig. 4.

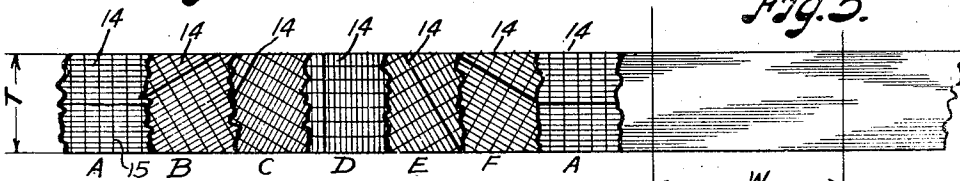


Fig. 6.

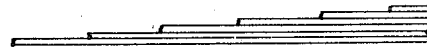


Fig. 5.

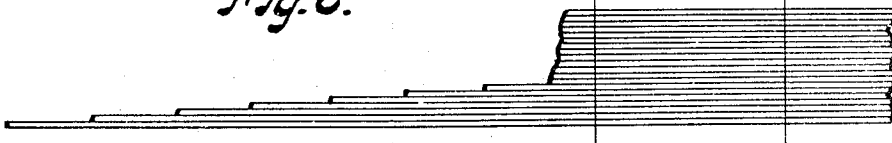


Fig. 7.



Fig. 8.

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## UNITED STATES PATENT OFFICE

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## LOOM PICKER

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3 Claims. (Cl. 139—159)

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This invention relates to improvements in loom pickers of the type built up from sheets of agglutinant treated fabric that are assembled in groups of several layers and then subjected to heat and pressure to shape and produce a tough, elastic, solid, homogenous picker body.

Power operated looms, as is well known, are so constructed that the shuttle is tossed by power operated means comprising picker sticks that oscillate about pivots. Such picker sticks are provided with loom pickers constructed to engage the ends of the shuttle and to impart sufficient velocity to the shuttles to pass them through the shed and to bring them to a stop. Loom pickers are subjected to very severe destructive forces and unless constructed with extreme care, they soon fail.

The invention to which this application relates has been shown as applied to a picker block having an opening or loop for the reception of a picker stick and an impact or hammer block to effect engagement with the shuttle which block is constructed in accordance with this invention. Such pickers, as above indicated, are usually built up from rubberized fabric, the warp and fill threads running in the same direction in the various plies. Such pickers usually fail by developing breaks transversely of the picker head in line with the depression provided for the reception of the shuttle. Such breaks take place usually in a single line and only on one side or on the bottom of the picker. When a break occurs and a crack is started, it progresses very rapidly and soon renders the loom picker unsuited for further use.

It is the object of this invention to produce a loom picker having a picker block of an improved construction in which the tendency to crack and break longitudinally or transversely is decreased greatly if not entirely eliminated.

The invention or improvement to which this application relates, briefly and generally described, consists in so arranging the different plies of treated fabric forming the body of the picker block that the warp and fill threads in adjacent plies extend at an angle of less than ninety degrees to each other. When the angular displacement is thirty degrees, the plies having the warp and fill threads running in parallel directions are separated by five plies angularly related to each other.

Having thus pointed out some of the objects of this invention and in a general way described the same, the invention will now be described in detail, and for this purpose reference will be had

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to the accompanying drawing in which the invention has been illustrated, and in which:

Figure 1 is a side elevation of a loom picker constructed in accordance with this invention, a portion thereof being broken away to better disclose the construction;

Figure 2 is an end view looking towards the left in Figure 1;

Figure 3 is a section taken on line 3—3, Figure 1;

Figure 4 is a view showing the usual arrangement of the plies of fabric forming the body of the picker block;

Figure 5 is a side elevation of the assembly shown in Figure 4;

Figure 6 is a top plan view partly broken away in a manner similar to the view shown in Figure 4, and shows the manner in which the plies forming the picker block are arranged in accordance with this invention;

Figure 7 is a side view of the picker block shown in Figure 6;

Figure 8 is a view similar to that shown in Figure 2 and shows the usual line of break that occurs with the ordinary loom picker construction.

Referring now to the drawing reference numeral 10 designates the loom picker in its entirety. The loom picker as shown consists of three separate parts which have been designated by reference numerals 11, 12 and 13. The loop designated by reference numeral 12 is formed from a plurality of layers of square woven rubberized fabric. This fabric may be square cut and arranged with the warp and fill threads running parallel in all layers.

The opening in part 12 is of the proper size and shape to receive the picker stick to which it is secured and in connection with which it functions. Secured to one end of the part 12 is a picker block or loom picker body 13 formed from a plurality of layers of rubberized fabric arranged in a manner which will hereinafter be described and which is illustrated in Figures 6 and 7. Surrounding the two parts 12 and 13 is a covering body 11 formed from a plurality of layers of square woven rubberized fabric. The loom picker block 13 in accordance with this invention is formed from a plurality of layers of rubberized fabric in which the warp and fill threads are arranged at angles to each other in adjacent layers.

Referring now to Figures 4 and 5 which are intended merely to illustrate the ordinary manner of arranging the fabric layers for the loom

picker block. Reference numeral 14 designates the warp and reference numeral 15 the fill threads. These have heretofore been arranged parallel to each other in adjacent layers, the loom picker body being built up of a number of separate layers as shown in Figure 5. Such bodies break relatively easy during operation because they have lines of cleavage that run in the same direction in all of the layers.

The present loom picker block 13 is formed from rubberized or otherwise treated fabric in which the warp 14 is angularly related to the warp in the adjacent layer. In the arrangement chosen to illustrate this invention the warp threads have been shown as making an angle of thirty degrees with the corresponding threads of the adjacent layer. When this angular relation prevails, there will be five layers of treated fabric between any two layers in which the warp and fill threads are parallel.

In the embodiment illustrated in Figure 6, the angular relation is thirty degrees and the first fabric layer has been designated by A and the others successively by letters B, C, D, E and F. The layer following layer F has been designated by the letter A and forms the first layer of another group. The warp and fill threads of the layers in each group extend in different directions. By making the angular relation between the several layers smaller, each group will have a larger number of angularly related layers.

After the loom picker block has been built up with the rubber composition or other suitable agglutinant in uncured state, the assembly is then subjected to pressure in a form mould and to sufficient heat to cure the rubber or other agglutinant.

The usual way of constructing such loom pickers is, of course, to first form an elongated assembly and after the same has been cured, it is separated into sections of the desired length by means of suitable saws or other cutting devices. It is to be understood, however, that the specific method employed in building the loom picker forms no part of the present invention. In fact, the method is the same as ordinarily employed for producing similar loom pickers. The important structural feature by means of which this picker differs from the ordinary one is the arrangement of the treated fabric layers shown in Figures 6 and 7.

The fabric used in the construction is prefer-

ably cotton that has been "frictioned" or "rubberized" with a rubber composition. It is to be understood, however, that other material may be employed such as nylon, rayon or silk. Instead of rubber some of the many heat softenable plastics now available may be substituted. When the term "rubber" is employed, it is to be understood that it includes the so-called "synthetic" rubbers now available.

What is claimed as new is:

1. In a loom picker of the type having a picker block on one side, and means on the other side for attaching the block to a picker mechanism, in which the picker block comprises at least one group of square woven, rubberized fabric layers in which the warp and fill threads of adjacent layers are angularly related, the angular relation with respect to the first layer in the group increases progressively in the same direction, the angular increment being substantially equal to one hundred eighty degrees divided by the number of layers in the group and there being at least three layers to a group.

2. A loom picker of the type having a picker block on one side, and means for attaching the block to a picker mechanism, in which the picker block comprises at least one group of square woven rubberized fabric layers in which the warp and fill threads of adjacent layers form an angle of greater than zero and less than ninety degrees with the adjacent layer.

3. In a loom picker of the type having a picker stick loop, and a picker block secured to one side thereof, in which the picker block comprises an assemblage of groups of square woven, rubberized fabric having warp and fill threads, in which the angular relation between the warp threads of adjacent layers differs, increasing in the same direction by angular differentials of less than 90°.

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