PICKER SPINDLE MOUNTING FOR LOOMS

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The invention relates to a picker rod spindle for looms and it is the general object of the invention to provide a simple structure for holding the spindle in position with respect to the lay and prevent it from becoming loose during loom operation.

Certain forms of picking motions employ a slide picker having a part to push against the shuttle and having another part usually beside the shuttle to slide along the picker spindle. Due to vibration and the shock incident to boxing of the shuttle, mountings previously employed for the picker spindle have not been entirely satisfactory, showing a tendency to work loose and thereby interfere with the proper guiding of the picker end and the shuttle. It is an important object of my present invention to provide a picker spindle which is pivoted to the lay at its inner end and passes through a tapered threaded plug at its outer end, the plug being secured to a part of the lay structure.

It is a further object of my invention to employ the general form of picker already mentioned in connection with a locking means which will prevent the plug from rotating with respect to the spindle. This feature, together with the fact that the pivot for the inner end of the spindle is fixed with respect to the lay, will hold the spindle and its plug definitely in position in such a way that the plug cannot lose its proper setting.

With these and other objects in view which will appear as the description proceeds, my invention resides in the combination and arrangement of parts hereinafter described and set forth in the claims.

In the accompanying drawing, wherein a convenient embodiment of my invention is set forth,

Fig. 1 is a top plan view of a lay end showing a picker spindle made and mounted according to my present invention,

Fig. 2 is a rear elevation of the structure shown in Fig. 1,

Fig. 3 is an enlarged vertical section on line 3—3 of Fig. 1, parts being omitted,

Fig. 4 is a detailed end elevation taken in the direction of arrow 4, Fig. 2,

Fig. 5 is a detailed horizontal section on line 5—5 of Fig. 3,

Fig. 6 is a rear elevation of the plug, and

Fig. 7 is an end elevation on an enlarged scale looking in the direction of arrow 7, Fig. 6.

Referring to the drawing, I have shown a lay 10 having a lay end 11 provided with a substantially flat vertical surface 12 substantially perpendicular to the line of travel of the shuttle. A support 13 is secured to this surface by means of bolts 14 and may have a notch or pocket 15 to receive the forward edge of the surface 12. An outer guide plate 16 secured by bolts 17 to the support 14 has a vertical guide groove 18 which receives tongue 19 of a gang of shifting boxes 20. A second tongue 21 at the inner end of the boxes slides in a second vertical groove 22 provided with structure secured to the lay end. The shuttles and the binders may be of usual construction and are shifted by any convenient form of box motion. The picker P may be of usual construction and is actuated by a picker stick 23 to propel the shuttle.

My invention relates more particularly to the guide or spindle for the picker, and in carrying my invention into effect I employ that form of a spindle which has the inner end provided with an eye 30 which lies between ears 31 rigid with the lay end. A pivot pin 32 extends through the ears of the eye so that the inner end of the spindle will not be cramped should the lay end swing slightly with respect to the lay as the latter beats up.

The outer end of the spindle is substantially cylindrical and passes through a plug 33 having a clear bore 34 of substantially the same internal diameter as the diameter of the spindle. The plug is made more particularly as set forth in Figs. 6 and 7 and comprises a tapered threaded part or shank 35 which is received by a correspondingly tapered threaded bore 36 in the support 13. The plug is provided with a head 37 adapted for turning by means of a wrench or the like and there may be located between the head and the threaded part a weakening groove or depression 38 which lies below the adjacent threads for the purpose of making the several threaded parts more resilient.

Two slots 40 are cut at right angles to each other through the threaded part or shank to provide four resilient prongs 39. A set screw 41 extends through the head to communicate with the bore so that it may lock the plug to the spindle and a check nut 42 may be used to hold the same of the set screw.

In use, the outer cylindrical end of the spindle is passed through the threaded bore 36 and then the eye is placed between the ears and the pivot bolt 33 applied, as will be evident from an inspection of Figs. 3 and 5. The ears and pivot pin serve to prevent rotation of the spindle about its axis. The plug is then slipped over the outer end of the spindle and threaded into the bore 36 by means of a wrench or the like. The plug is turned until its prongs 39 tightly grip the spin-
die, said prongs being resilient and being wedged inwardly against the spindle by the tapered threaded bore 36. The set screw 41 is then inserted through the head of the plug and is set up tightly against the spindle, after which the check nut 42 is turned to hold the setting of the screw.

By reason of the construction set forth herein the spindle is very effectively clamped against lateral vibration. The inner end is held by the ears and pivot pin so that rotation about the spindle axis is impossible, and the set screw 41, by passing through the plug, holds the latter against relative movement with respect to the spindle. The ears and pivot pin therefore serve to prevent the threaded part of the plug from rotating in the threaded bore 36 and thus effectively retain the original setting of the plug.

Having thus described my invention it will be seen that changes and modifications may be made therein by those skilled in the art without departing from the spirit and scope of the invention and I do not wish to be limited to the details herein disclosed, but what I claim is:

1. In a picker spindle mounting for a loom having a lay, means defining a pivotal connection between the lay and the inner end of the picker spindle effective to prevent rotation of the latter about the longitudinal axis thereof; a tapered threaded plug surrounding the outer end of the picker spindle, a support on the lay having a tapered threaded bore to receive the tapered threaded plug; said plug having resilient portions to be clamped against the spindle as the plug is moved toward the small end of the tapered bore, and means to lock the plug to the spindle.

2. In a picker spindle mounting for a loom having a lay, a pivotable connection between the lay and the inner end of the spindle constructed to prevent rotation of the spindle about the longitudinal axis thereof, a support on the lay having a tapered threaded bore, a plug having a tapered threaded shank to fit the bore and surrounding the outer end of the spindle and means to lock the shank to the spindle.

3. In a picker spindle mounting for a loom having a lay movable back and forth therein, means defining a pivotal connection between the lay and the inner end of the spindle, the axis of the pivotal connection being transverse of the direction of movement of the lay, two cooperating wedging elements surrounding the outer end of the spindle, one of said elements having resilient portions to be pressed against the spindle by the other element, and means to lock the spindle to the element in contact therewith.

4. A plug for the outer end of a picker spindle for a loom having a lay provided with a tapered threaded bore, said plug comprising a split shank which is tapered and threaded and provided with resilient portions, the plug also having a head by means of which the same may be turned in the bore, and means carried by the head extending therethrough to lock the plug to the spindle.

5. A plug for the outer end of a picker spindle for a loom having a lay provided with a tapered threaded bore, said plug comprising a split shank which is tapered and threaded and provided with resilient portions, the plug also having a head by means of which the same may be turned in the bore, and means carried by the head extending therethrough to lock the plug to the spindle.

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