May 2, 1933. J. R. FANT 1,907,180

TEXTILE MACHINERY

Filed Oct. 26, 1931

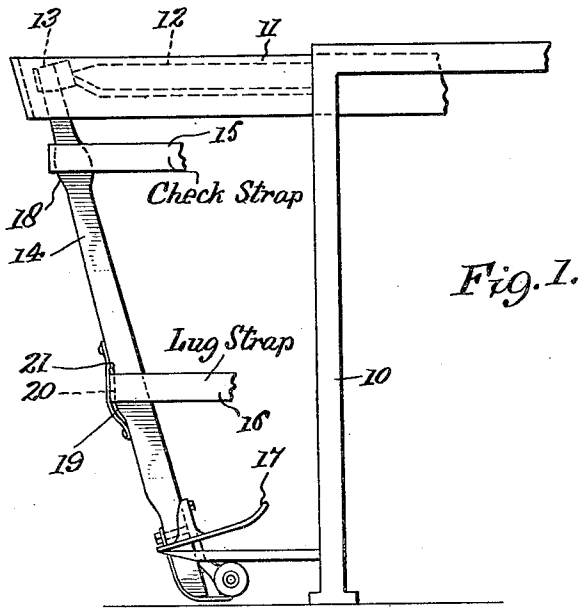


Fig. 1.

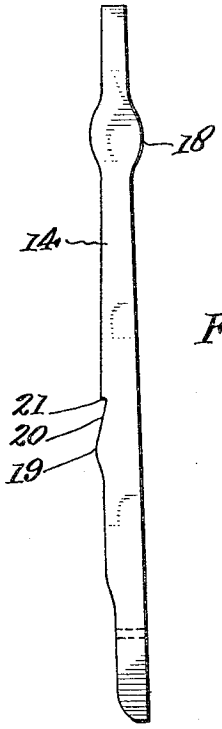


Fig. 2.

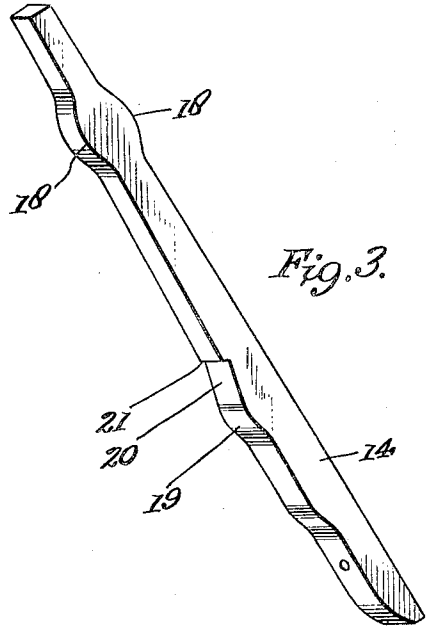


Fig. 3.

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UNITED STATES PATENT OFFICE

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TEXTILE MACHINERY

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The present invention relates to improvements in textile machinery and more particularly relates to certain improvements in picker sticks as employed on looms in which a more effective cooperation is had between the picker stick and the lug and the check straps, thereby lessening the wear and tear on the straps and prolonging the life thereof.

An object of the invention is to so construct the picker staff with reference to the straps that the force of operation is more scientifically applied and throughout the entire width of the strap in a substantially uniform manner so that the strap will not be pulled locally which tends to distort it.

Another object of the invention is to provide an improved picker staff which will secure the above results in a way which will not increase the cost of picker staffs but which may be conducted simply in the manufacture thereof by present methods and operations.

With the foregoing and other objects in view the invention will be described more fully hereinafter and more particularly pointed out in the appended claim.

In the drawing, in which like symbols refer to like parts throughout the several views,

Figure 1 is a fragmentary front view of a loom showing an improved picker staff constructed in accordance with the present invention.

Figure 2 is a side view of the improved picker staff detached from the loom, and

Figure 3 is a perspective view of the same.

Referring more particularly to the drawing, 10 designates generally the framework of a loom and 11 the shuttle box containing the shuttle 12 in dotted lines. In Figure 1 is also shown the picker 13 in dotted lines.

The picker stick is indicated at 14 and the check and lug straps at 15 and 16, respectfully.

The shoe is represented at 17 and has associated with it the usual parts for mounting the lower end of the picker stick 14.

The picker stick, as is well-known, is the part of the loom used to transmit power to throw the shuttle from one side of the loom to the other, thereby weaving the filling of the fabric produced, that is, the cross-wise threads of the fabric. This picker stick is usually made of hickory wood. To avoid the sudden stop of the picker stick in its two directions of travel, the leather check strap 15 is employed. This check strap catches the blow of the stick and slows its rate of travel until finally stopped. The picker stick receives its power through the medium of the lug strap 16 usually made of wood or cotton canvas with pieces of leather at point of contact with the picker stick.

The check strap and the lug strap are nearly always held in vertical position, and the picker stick, as illustrated, is set at an angle in relation to the two straps.

As the old designed picker stick has straight lines at the points of contact with the straps, the lug strap engages the stick at its upper edge only. Likewise the stick strikes the upper edge only of the check strap. This has a tendency to warp and pull out of shape the straps because the strain thereon is only locally applied at the upper edges and is not distributed throughout the entire width of the strap in a uniform manner. Thus the life of the straps is greatly decreased as is also their efficiency and straps have to be replaced at relatively great expense.

In order to prolong the life of the two straps and to insure smoother operation, the picker stick is modified in construction to include bulged or enlarged portions 18 and 19 at the points of contact with the straps 15 and 16. The walls of these bulged portions at the points of contact with the straps incline downwardly and outwardly from the normal wall of the picker stick, and in the case of the lug strap at least, the wall is also preferably curved to take and hold and form a proper bight in the check strap so as to effectually hold the strap and to take up the entire width of the strap when the picker staff strikes the same.

At the lower portion of the picker staff, nearer its center of movement, it is found sufficient to provide an inclined wall 20 inclining downwardly and outwardly but pref-

erably indented, as indicated at 21, or shouldered within the normal wall of the picker staff at its upper end.

The lug strap 16, engaging this inclined wall, will have an effective purchase throughout the entire inclined surface 20 and thus the drawing of local parts of the strap will be prevented. The entire width of each strap is in contact with the stick at the time of the function of the straps. The power of the lug strap is more scientifically applied and the life of the strap is thereby prolonged.

In the same way the arresting power of the check strap is more completely applied throughout the entire cross section of the strap and thus the life of this strap is more scientifically prolonged.

It will be obvious that various changes in the construction, combination and arrangement of parts could be made, which could be used without departing from the spirit of my invention, and I do not mean to limit the invention to such details except as particularly pointed out in the claim.

Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States is:—

1. In a loom having a shuttle box, and check and lug straps situated remotely from one another in a vertical direction, an improved picker stick movably mounted at its lower portion for swinging movement and engageable through the shuttle box at its upper portion, said picker stick being embraced by both the check and the lug straps, said picker stick at an upper portion thereof embraced by the check strap being bulged at points of contact with the check strap, the walls of the bulged portion at the points of contact with the strap inclining downwardly and outwardly from the normal wall of the picker stick whereby such inclined and bulged wall engages the check strap throughout its vertical dimension in the inclined position of the picker stick, said bulged and inclined wall also being curved to take and form a bight in the check strap whereby to effectively hold the strap against falling off the bulged portion, said picker stick at a lower portion nearer its center of movement having an inclined wall inclining downwardly and outwardly and being engaged by the lug strap throughout its vertical dimension, said last mentioned inclined wall being indented at its upper portion within the normal wall of the picker stick.

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