April 15, 1969 A. ALTENWEGER 3,438,103

FRAME FOR A WARP-TYING MACHINE AND THE LIKE

Filed Dec. 5, 1967

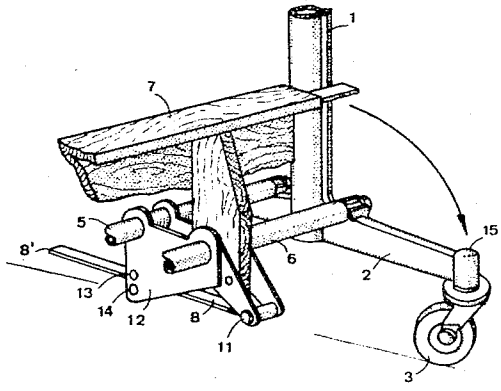

Fig.1

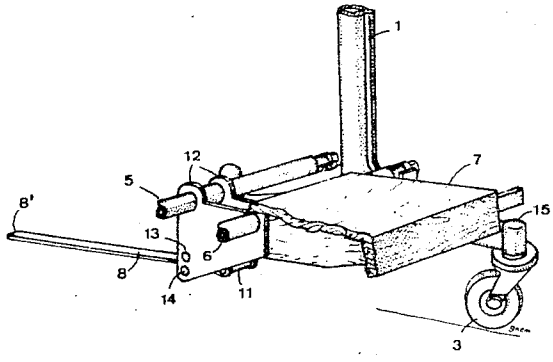

Fig.2

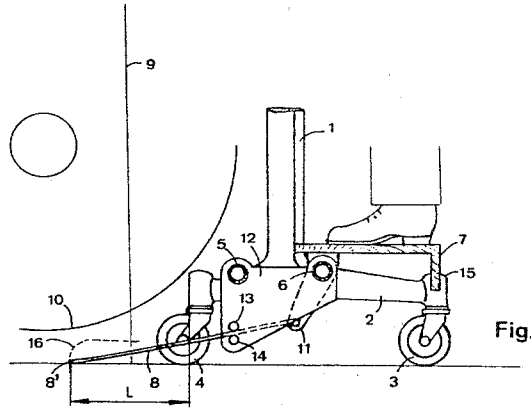

Fig.3

INVENTOR
ALOIS ALTENWEGER
BY
Kenyon & Kenyon
ATTORNEYS

United States Patent Office

3,438,103
Patented Apr. 15, 1969

3,438,103

FRAME FOR A WARP-TYING MACHINE AND THE LIKE

Alois Altenweger, Uster, Switzerland, assignor to Zellweger Ltd., Uster, Switzerland, a corporation of Switzerland

Filed Dec. 5, 1967, Ser. No. 688,148
Claims priority, application Switzerland, Jan. 6, 1967, 388/67
Int. Cl. D03j 1/14, 1/18, 3/00
U.S. Cl. 28—41 9 Claims

ABSTRACT OF THE DISCLOSURE

The supporting strut is articulated to the treadle board so that upon downward movement of the treadle board, the supporting strut is pushed out of the frame under a warp beam to support and prevent tilting of the frame toward the warp beam. Upon upward movement of the treadle board, the supporting strut is retracted within the frame.

This invention relates to a frame for a warp-tying machine and the like.

Generally, frames for conventional warp-tying machines and the like are mounted on casters for movement, especially, for movement towards the looms. When the warps are arranged and stretched, the frames require immoblization to a certain extent, for example, by braking of the castors. However, the frames have not been prevented from being drawn towards the looms under the tension of the stretched warps, that is, by tilting. Further, it has not been possible to enlarge the area on which the frame stands by increasing the distance between the castors because the depth of the frame has to be kept within predetermined limits owing to the limited amount of space available between the looms.

Accordingly, it is an object of the invention to maintain a frame for a warp-tying machine against movement toward a loom upon braking of the frame.

It is another object of the invention to enlarge the area of support of a frame for a warp-tying machine upon immobilizing of the frame adjacent a loom.

It is another object of the invention to reduce the tilting of a frame for a warp-tying machine when positioned adjacent a loom.

Briefly, the invention provides a castor supported frame for a warp-tying machine which includes a pair of supporting struts mounted on the frame and connected to a hinged treadle board of the frame. The supporting struts are mounted on the frame and interconnected to the treadle board so as to rest on the floor when the treadle board is folded down onto the floor. When resting on the floor, the supporting struts extend outwardly of the side of the frame closest the loom so as to immobilize the frame against movement towards the frame as well as to support the frame.

These and other objects and advantages of the invention will become more apparent from the following detailed description and appended claims taken in conjunction with the accompanying drawings in which:

FIG. 1 illustrates a fragmentary perspective view of the right-hand lower section of a frame according to the invention with the treadle board folded up;

FIG. 2 illustrates a view of the frame similar to FIG. 1 with the treadle board in a partially lowered position; and

FIG. 3 illustrates a side view of the frame of the invention with the treadle board and supporting strut fully down.

Referring to the drawings, while only one side of the frame is hereinafter specifically described, it is to be understood that the frame has two sides of identical structure. The frame for the warp-tying machine includes vertically adjustable feet 1 connected to brackets 2 which are supported on castors 3, 4. The upper parts of the frame are of known construction and are therefore not shown or further described. The opposite left-hand and right-hand brackets 2 of the frame are connected together and kept apart by a pair of struts 5, 6. A treadle board 7 is rotatably mounted on the strut 6 to be folded up and down in order to provide a platform for enabling an operator to work from a raised position so as to reach the elevated upper parts of the frame.

A supporting strut 8 is provided on each side of the frame to facilitate supporting of the frame and to immobilize the frame on the floor. Each supporting strut 8 is rotatably mounted at one end in a bearing 11 which is secured in a pair of flanges 11' supported from the strut 6 and secured to the treadle board 7. In addition, a pair of plates 12 are fixedly supported from the struts 5, 6 on opposite sides of the supporting strut 8 and a pair of bolts 13, 14 are disposed between the plates 12 to slidably guide the supporting strut 8 therebetween. The supporting strut 8 can thus be moved in and out with respect to the frame depending upon the tilting movement of the treadle board 7. The treadle board 7 and supporting strut 8 are coupled in such an articulated relation that when the treadle board 7 is up, the strut 8 is pulled in and when the treadle board is down, the strut is pushed out. The bearing 11 is arranged in a manner relative to the axis of rotation on the strut 6 and the length of the supporting strut 8 is such that when the treadle board 7 is folded up, the end 8' of the supporting strut 8 is maintained within the boundaries of the frame while when the treadle board 7 is folded down, the end 8' of the supporting strut 8 bears on the floor a distance L outside the boundaries of the frame.

In the travelling position of the frame, the supporting strut 8 is pulled in so as not to project beyond the boundary of the frame and thereby prevents the frame from occupying more space than otherwise without the strut 8. When the frame is brought up to a loom 9, the strut 8 is pushed out toward the loom 9 to rest on the floor under a warp beam 10 on the loom 9.

In order to vary the pressure with which the supporting strut 8 rests on the floor, the end 8' of the supporting strut 8 is arranged to rest on the floor to immobilize the frame before the treadle board 7 reaches the fully down position as determined by the stop 15. That is, the unloaded treadle board 7 when folded down remains in a suspended position when the supporting strut 8 initially contacts the floor. Upon application of a downward force on the suspended treadle board 7, as by an operator stepping thereon, the treadle board 7 is pressured down onto the stop 15 so that the supporting strut 8 is pressed with greater force onto the floor. The additional movements of the bearing 11 is made possible by the resilience of the strut 8. During these movements of the treadle board 7 between its upper and lower positions the end 8' of the supporting strut 8 follows a geometric path 16. This path 16 has a vertical section at the outermost end which indicates that, when the strut 8 contacts the floor, the full unfolding of the treadle board 7 produces greater pressure on the floor without displacing the frame.

What is claimed is:

1. A frame for a warp-tying machine including a treadle board rotatably mounted in the frame for up and down movement relative to a floor, and at least one supporting strut slidably mounted in the frame in articulated relation with said treadle board for movement of said strut into and out of the frame in response to the up and down movement of said treadle board whereby said strut is brought to rest on the floor upon down-

ward movement of said treadle board and pulled into the frame upon upward movement of said treadle board.

2. A frame as set forth in claim 1 further includes a plurality of castors mounting the frame on the floor for rolling movement thereon.

3. A frame as set forth in claim 1 which further includes a stop thereon for engaging said treadle board in the downmost position of said treadle board, and wherein the end of said supporting strut is sized to rest on the floor prior to engagement of said treadle board with said stop.

4. A frame for a warp-tying machine including a pair of brackets for supporting the frame on a floor, a pair of struts connecting said brackets together, a treadle board rotatably mounted on one of said struts for up and down movement relative to the floor, a pair of plates fixedly supported from said struts, a supporting strut disposed between said plates in articulated relation with said treadle board at one end thereof, and means disposed about said supporting strut within said plates for slidably guiding said supporting strut therebetween whereby said supporting strut is movable into and out of the boundary of the frame in response to the movement of said treadle board relative to the floor.

5. A frame as set forth in claim 4 wherein said means includes a pair of bolts disposed on opposite sides of said supporting strut.

6. A frame as set forth in claim 4 which further includes a stop on one of said brackets for engaging said treadle board upon downward movement of said treadle board and wherein the end of said supporting strut is sized to rest on the floor out of the boundary of the frame prior to engagement of said treadle board with said stop.

7. A frame as set forth in claim 4 wherein the end of said supporting strut follows a path of movement out of the frame having a vertical section relative to the floor at the outermost end.

8. A frame as set forth in claim 4 which further includes a pair of flanges supported from said one strut and secured to opposite sides of said treadle board, and a bearing rotatably mounted in said flange and rotatably secured to one end of said supporting strut to articulate said supporting strut to said treadle board.

9. A frame as set forth in claim 8 which further includes a pair of castors secured to each said bracket for rollably mounting the frame on the floor.

References Cited

UNITED STATES PATENTS

2,972,797 2/1961 Altenweger ---------- 28—41

LOUIS K. RIMRODT, *Primary Examiner.*

U.S. Cl. X.R.

28—49