Brace Attachment for Playground Apparatus

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This invention relates to structural braces and is particularly adapted for use in connection with the end supports and cross-arm bar of playground apparatus and other gymnasium devices.

In such apparatus having a "pumper" or movable seesaw, a maximum amount of stress is occasioned at the supporting cross-arm bar from which the hanger rods are suspended. Unless adequately braced the tendency is for the cross-arm bar as well as the apparatus legs or end supports to be loosened at their connections to the top bar.

It is an object of this invention to provide means for preventing loosening at the connections for the apparatus legs and "pumper" supporting cross-arm or bar caused by the torque or stress at these locations.

Another object is to provide a bracing construction which is easy to attach.

Still another object is to provide a brace which although connected to the main supports does not interfere with the moving parts of the apparatus.

In the drawings:

Figure 1 is a fragmentary perspective of one end of a playground apparatus showing the brace attached.

Figure 2 is a partial perspective of the cross-bar with one of the rod hangers and connection shown in section, while Figure 3 is a plan view of the brace.

In the drawings where like reference characters denote like parts, the reference numerals 10 and 12 indicate the two legs supports at one end of the playground apparatus while the horizontal top bar is shown at 14. The legs are secured at 16 by bolts or other conventional means.

Rigidly mounted on the top bar 14 is the cross-arm or bar 18 near an end of the apparatus having two suspending tubular hanger rods 20 and 22. Formed or secured at the top of each hanger rod and at right angles is an elongated housing 24 having a bar 26 therein. The cross-arm or bar 18 is of general rectangular shape and is opened at the bottom having bores 26 on both sides to receive bushing bar 28 on which is mounted a bronze bushing 29 spaced from the inner walls 30 of the housing 24.

It can be appreciated that hanger rods 20 and 22 upon which is mounted the "pumper", is not shown in the drawings. These conventional devices have opposite seats and foot pedals and children, through their own combined efforts, not unlike a conventional see-saw, cause the hanger rods to swing backward and forward about their pivots 28 within the bearing housing 24.

The subject matter includes a brace having the spaced stringer members 32 and 34 but it is to be noticed that these stringers are not parallel to each other. Cross struts 36 and 38 are welded at their ends 40 to the stringers 32 and 34 short of their ends 42. These cross struts 36 and 38 are also welded to each other approximately midway as at 44.

On the narrow side of the brace the ends of stringers 32 and 34 are turned upwardly to form flanges 42 at about 90° angles to the horizontal and openings 48 and 50 are formed therein. On the opposite or broader side of the brace twisted ends 52 and 54 of the stringers are formed having openings 56 and 58 provided therein.

The ends 42, at the broader side of the brace, are secured 69 to the tubular apparatus legs 10 and 12 near the top. The flanges on the narrow side of the brace are secured by bolts or bushes bars 28 which also pass through the bushes 29 and cross bar 18.

It can be appreciated that due to the members 32 and 34 being rigidly connected in tension, at their ends to the main apparatus supports 10 and 12, and to the crossbar 18, and being additionally strengthened by the cross struts 36 and 38 a very strong re-inforcing construction is obtained which reduces the strain at the connections of these members 32 and 34 to the horizontal top bars caused by the torque occasioned by the reciprocatory movement of the hanger rods 20 and 22.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof and therefore the invention is not limited by that which is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. In a playground apparatus having vertical end supports, a top horizontal bar secured to said supports, a cross-bar of reversed U-shaped formation mounted on said horizontal bar having movable members suspended thereon, a brace for said cross-bar and said end supports on one end of said playground apparatus, said movable members including two hanger rods suspended from said cross-bar and pivotally mounted for reciprocatory movement therein, said brace rigidly secured to the ends of said cross-bar and said end supports, said brace comprising two stringer members positioned in non-parallel relationship, said stringer members having a pair of upturned flanges at one end bolted to the ends of said channel bar and a pair of twisted flanges on the opposite end of said brace in connection with the end supports of said playground apparatus.

2. In a playground apparatus having vertical end supports, a top horizontal bar secured to said supports, a reversed U-shaped channel bar transversely mounted on said horizontal bar having movable members suspended therefrom, a brace for said channel bar and said end supports on one end of said playground apparatus, said movable members including two hanger rods suspended from said channel bar and pivotally mounted for reciprocatory movement therein, said brace rigidly secured to the ends of said channel bar and said end supports, said brace comprising two stringer members positioned in non-parallel relationship, said stringer members having a pair of upturned flanges at one end bolted to the ends of said channel bar, a pair of twisted flanges on the opposite end of said brace in connection with the end supports of said playground apparatus, said stringer members connected.
with crossed struts, and the ends of said stringers being spaced a distance at their connection with the ends of the channel bar less than the distance between the ends of the brace at their connections with the vertical end supports of the playground apparatus.

4. In a playground apparatus having vertical supports at each end thereof, a horizontal bar mounted thereon, a cross-bar of reversed U-shaped formation secured to one end of said horizontal member, movable members mounted in pivots in said cross-bar, the combination therewith of means for bracing said vertical supports, horizontal bar and said cross-bar, said bracing means comprising a pair of stringers spaced from each other in non-parallel relationship by a pair of connected crossed struts, the opposed ends of said stringers being connected to the vertical supports and the ends of said cross-bar.

5. In a playground apparatus having vertical supports at each end thereof, a horizontal bar mounted thereon, a cross-bar of general reversed U-shaped formation transversely secured to one end of said horizontal bar, movable members mounted on pivots in said cross-bar, the combination therewith of means for bracing said supports, said horizontal bar and cross-bar, said bracing means comprising a pair of stringers spaced from each other in non-parallel relationship by a pair of connected crossed struts, the opposed ends of said stringers being connected to the vertical supports and the cross-bar ends, the ends of said stringers being spaced a distance shorter at their connection with the ends of said cross-bar than the opposite end connections with the vertical supports, and the shorter ends of said bracing means rigidly mounted on said pivots for said movable members.

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