G. J. McGUIRE.

SWING.

APPLICATION FILED DEC. 18, 1916.

1,259,649. Patented Mar. 19, 1918.

Fig. 2.

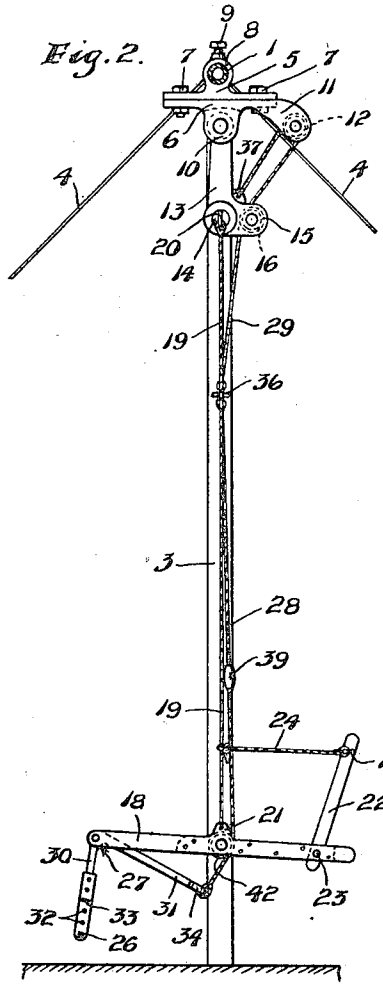


Fig. 1.

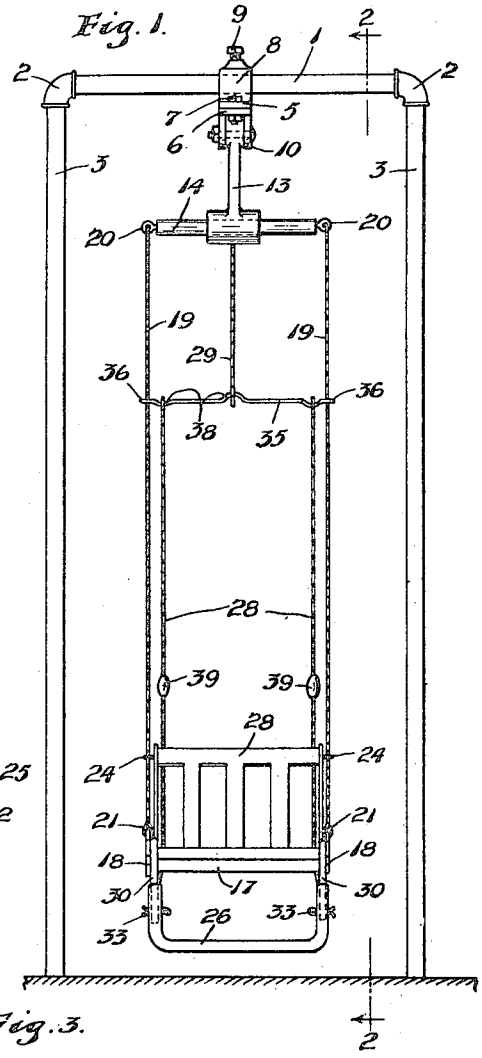
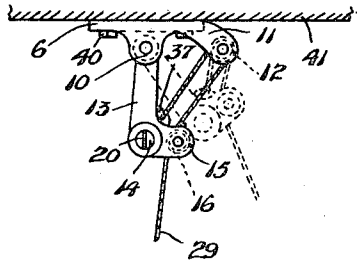


Fig. 3.



WITNESSES.

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GEORGE J. McGUIRE, OF MINNEAPOLIS, MINNESOTA.

SWING.

1,259,649. Specification of Letters Patent. Patented Mar. 19, 1918.

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To all whom it may concern:

Be it known that I, GEORGE J. McGUIRE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Swings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in swings of the type having means whereby the occupant may propel the same by foot and arm movement. To the above end, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings,

Figure 1 is a front elevation of the improved swing;

Fig. 2 is a view partly in side elevation and partly in vertical section taken on the line 2—2 of Fig. 1; and

Fig. 3 is a detail view showing modified means for supporting the swing.

The overhead support for the swing, shown in Figs. 1 and 2, is in the form of a horizontal pipe 1 secured by elbows 2 to the upper ends of a pair of upright pipes 3, the lower ends of which are set into the ground and securely anchored. To brace the support 1 in the plane of the oscillation of the swing, oppositely extended guy wires or cables 4 are secured to said support and anchored to the ground.

The swing is secured to the support 1 by upper and lower castings 5 and 6, respectively, which are detachably connected by nut-equipped bolts 7. Integrally formed with the casting 5, is an upright lug 8 having a horizontal bore, through which the support 1 is telescoped. A set screw 9 holds the casting 5 in position on the support 1. This set screw 9 has screw-threaded engagement with the lug 8 and its inner end impinges against said support. Integrally formed with the casting 6, is a depending bifurcated lug 10 and a rearwardly and downwardly projecting arm 11, the free end of which is bifurcated to receive a sheave 12, which is journaled to the prongs thereof.

The upper end of a depending link 13 is inserted between the prongs of the lug 10 and is pivoted thereto for swinging movement in the plane of the oscillation of the swing. A transverse bar 14 is secured, at its intermediate portion, to the lower end of the link 13. Integrally formed with the lower end of the link 13, is a horizontal and rearwardly projecting extension 15, which is bifurcated to receive a sheave 16 journaled to the prongs thereof. The sheaves 12 and 16 are both located in the same vertical plane with the link 13, and hence, in the plane of the oscillation of the swing.

The swing seat 17 is rigidly secured to and between a pair of side bars 18, the front ends of which are extended considerably forward of said seat. A pair of cables 19 support the seat 17 from the transverse bar 14. The upper ends of these cables 19 are attached to eyes 20 in the ends of the transverse bar 14 and their lower ends are attached in perforated lugs 21, integrally formed with the upper edges of the side bars 18 and at the longitudinal centers thereof. Obviously, the seat 17 may be raised or lowered to suit the operator by adjusting the cables 19 in either the eyes 20 or lugs 21.

The seat 17 is provided with a back 22, the lower end of which is inserted between the side bars 18, at their rear ends, and is pivoted thereto at 23. This back 22 is held in an upright position by a pair of cables 24 attached, at one of their ends, to eyes 25 secured in the vertical edge portions of said back and having their other ends tied to the cables 19. The inclination of the back 22 may be varied by changing the operative link of the cables 24.

The following connections are provided for propelling the swing, to wit:—a bail-like foot bar 26, a pair of bell crank levers 27, a pair of primary pulling cables 28 and a secondary pulling cable 29. The bell crank levers 27 are located between the side bars 18, extend parallel thereto and are pivoted, one to the outer end of each of said levers 27. The arms 30 of the bell crank levers 27 extend downwardly and forwardly and the arms 31 thereof extend downwardly and rearwardly. The prongs of the foot bar 26 are tubular to telescopically receive the free ends of the arms 30 and are provided with a multiplicity of longitudinally spaced transverse holes 32. The foot bar 26 is adjustably secured to the arms 30 by

cotter pins 33 passed through any alined pair of holes 32 and alined holes in the arms 30. The lower ends of the pulling cables 28 are attached to eyes 34 in the outer ends of the arms 31 and their upper ends are attached to a cross bar 35. This cross bar 35 has eyes 36 in its ends, through which the cables 19 extend. The lower end of the pulling cable 29 is attached to the intermediate portion of the cross bar 35 and its upper end is attached to a perforated lug 37, integrally formed with the link 13 at the junction of the extension 15 therewith. The intermediate portion of the cable 29 runs over the sheaves 12 and 16. To hold the cables 28 and 29 properly spaced on the cross bar 35, said cross bar is bent to afford offsets 38 in which said cables are secured. Hand holds 39 are secured to the pulling cables 28.

In the modification shown in Fig. 3, the casting 5 is removed and the casting 6 is secured by lag screws 40 to an overhead support 41, such as the ceiling of a room or porch or top member of a door frame.

The propelling of the improved swing may be briefly described as follows:

The operator, while seated, grasps the hand hold 39 with his hands and supports his feet on the foot bar 26. Then by drawing downward on the pulling cables 28 and pushing outward on the foot bar 26, causes the cable 29 to run over the sheaves 12 and 16, which draws the free end of the link 13 toward the sheave 12 and imparts the rearward movement to the swing. The operator then releases his pull on the cables 28 and 29 and allows the swing to move forward under the action of gravity. By repeating this operation, the operator may swing as high and fast as he pleases. During the oscillatory movement of the swing, the cross bar 35 moves upward and downward on the cables 19 and, together with guide sheaves 42 journaled to the inner faces of the bars 18 directly under the lugs 21, holds the pulling cables 28 in substantially parallel arrangement with the cables 19.

What I claim is:—

1. A swing comprising an overhead support, a link pivotally suspended from said support and having at its lower end a transverse bar, a fixed cable guide offset from the link in the plane of the oscillation of the swing, a seat, a pair of cables suspending the seat from the transverse bar, and a pulling cable attached to the link and having its intermediate portion extended over the fixed cable guide.

2. A swing comprising an overhead support, a link pivotally suspended from said support and having at its lower end a transverse bar and an offset cable guide, a fixed cable guide offset from the link, said two cable guides being offset in the plane of the oscillation of the swing, a seat, a pair of cables suspending the seat from the transverse bar, and a pulling cable attached to the link and having its intermediate portion extended over said two cable guides.

3. A swing comprising an overhead support, a link pivotally suspended from said support and having at its lower end a transverse bar and an offset cable guide, a fixed cable guide offset from the link, said two cable guides being offset in the plane of the oscillation of the swing, a seat, a pair of cables suspending the seat from the transverse bar, a cross bar guided by the seat-supporting cables, a secondary pulling cable attached at one end to the link and at its other end to the cross bar and having its intermediate portion extended over said two cable guides, and a pair of primary pulling cables attached to the cross bar.

4. A swing comprising an overhead support, a link pivotally suspended from said support and having at its lower end a transverse bar and an offset cable guide, a fixed cable guide offset from the link, said two cable guides being offset in the plane of the oscillation of the swing, a seat having forwardly extended side members, foot-actuated levers fulcrumed on said side members, a pair of cables suspending the seat from the transverse bar, a cross bar guided by the seat-supporting cables, a secondary pulling cable attached at one end to the link and at its other end to the cross bar and having its intermediate portion extended over said two cable guides, and a pair of primary pulling cables attached at one of their ends to the cross bar and at their other ends to said foot-actuated levers.

5. A swing comprising an overhead support, a link pivotally suspended from said support and having at its lower end a transverse bar and an offset cable guide, a fixed cable guide offset from the link, said two cable guides being offset in the plane of the oscillation of the swing, a seat having forwardly extended side members, foot-actuated levers fulcrumed on said side members, a pair of cables suspending the seat from the transverse bar, a cross bar guided by the seat-supporting cables, a secondary pulling cable attached at one end to the link and at its other end to the cross bar and having its intermediate portion extended over said two cable guides, a pair of primary pulling cables attached at one of their ends to the cross bar and at their other ends to said foot-actuated levers, and guides on the seat for the primary pulling cables.

6. A swing comprising an overhead support, a seat having forwardly projecting side members, a pair of cables suspending the seat from said support, a foot lever fulcrumed on the forwardly projecting side members of said seat and having crank

arms, and pulling cables attached to the crank arms and arranged to oscillate the swing.

7. A swing comprising an overhead support, a seat having forwardly projecting side members, a pair of cables suspending the seat from said support, a pair of bell crank levers fulcrumed on the forwardly projecting side members of the seat, a foot bar secured to corresponding ends of the bell crank levers, and pulling cables attached to the other corresponding ends of said levers and arranged to oscillate the swing.

8. A swing comprising an overhead support, a seat having forwardly projecting side members, a pair of cables suspending the seat from said support, a pair of bell crank levers fulcrumed on the forwardly projecting side members of the seat, a bail-like foot bar, the prongs of which are adjustably secured to corresponding ends of the bell crank levers, and pulling cables attached to the other corresponding ends of said levers and arranged to oscillate the swing.

9. A swing comprising an overhead support, a seat, a foot lever fulcrumed on the seat, hangers supporting the seat from the overhead support, a pulling cable having one of its ends attached to one of said hangers in the vicinity of the overhead support and having its other end attached to the foot lever, a fixed cable guide secured to the overhead support and offset from the swing in the plane of the oscillation thereof, and upper and lower cable guides, the former of which is secured to one of said hangers in the vicinity of the attached upper end of the pulling cable and the latter of which is secured to the seat, said pulling cable from its attached upper end being extended over the fixed cable guide and thence downward over the upper and lower cable guides, said upper and lower cable guides definitely holding the pulling cable therebetween longitudinally of the seat supporting hangers.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE J. McGUIRE.

Witnesses:

CLARA DEMAREST,

HARRY D. KILGORE.