

F. SCHWARZ.

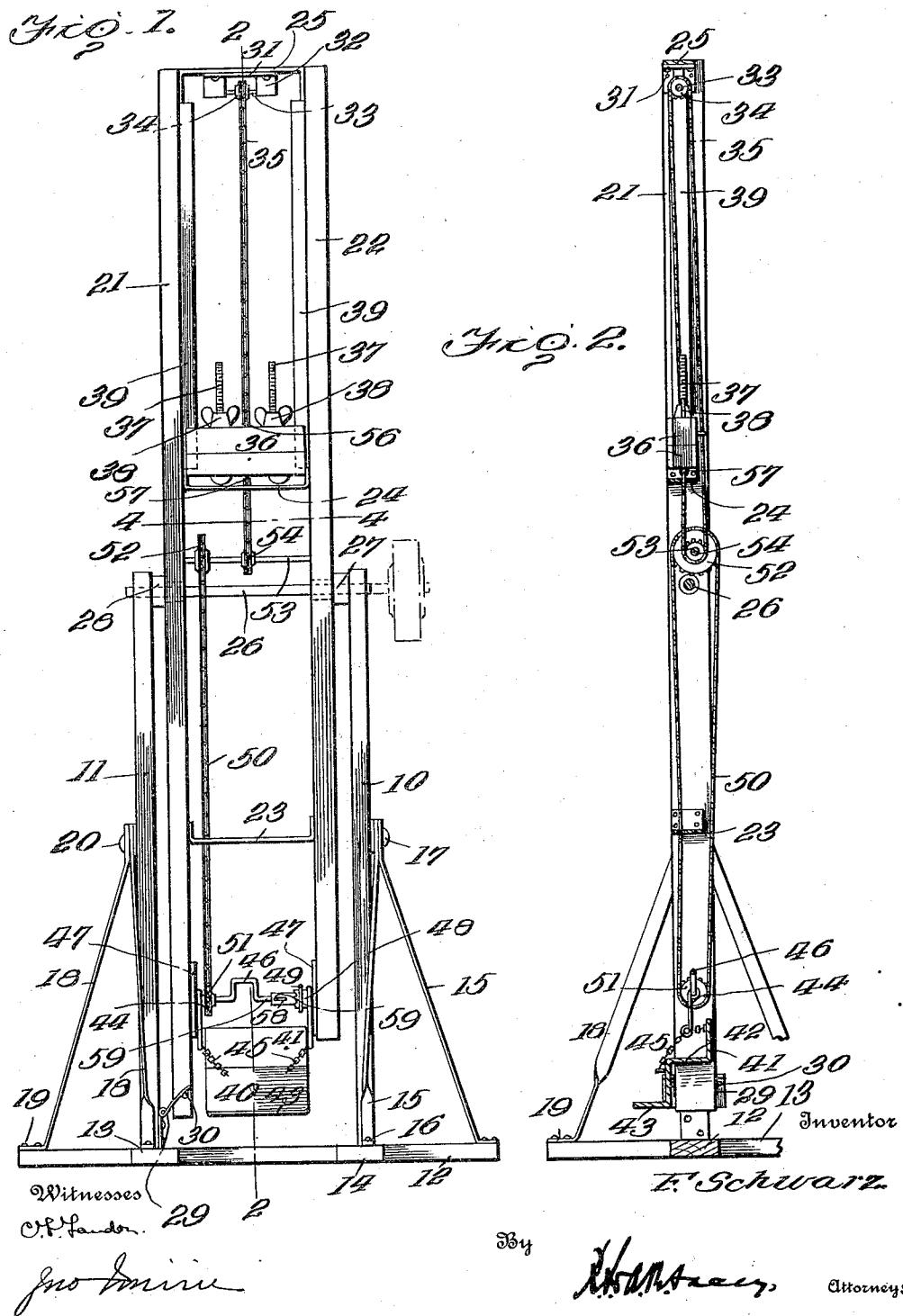
ROTARY SWING.

APPLICATION FILED JULY 13, 1914.

1,139,232.

Patented May 11, 1915.

2 SHEETS—SHEET 1.



F. SCHWARZ.

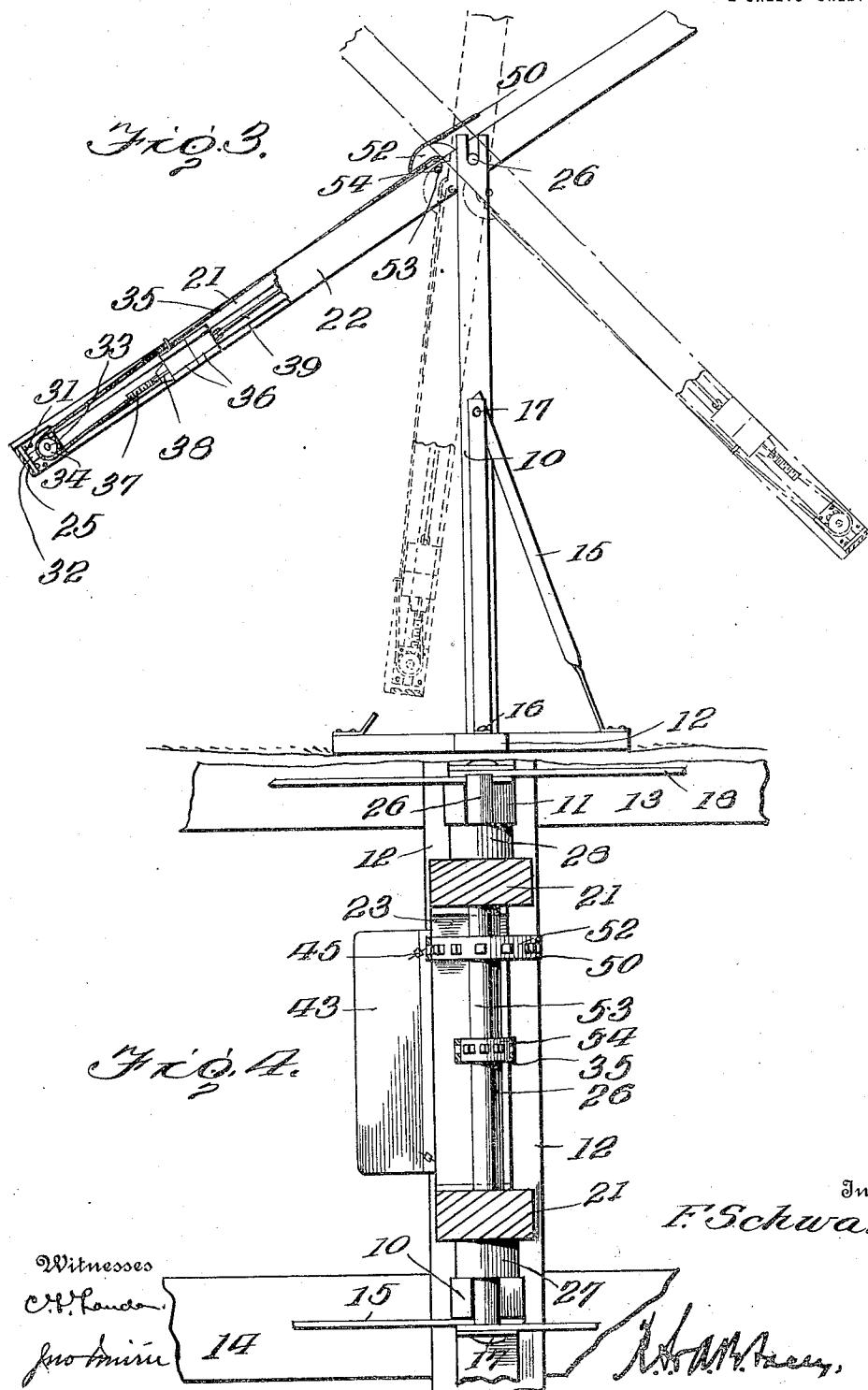
ROTARY SWING.

APPLICATION FILED JULY 13, 1914.

1,139,232.

Patented May 11, 1915.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

FREDERICK SCHWARZ, OF BERNE, INDIANA.

ROTARY SWING.

1,139,232.

Specification of Letters Patent.

Patented May 11, 1915.

Application filed July 13, 1914. Serial No. 850,748.

To all whom it may concern:

Be it known that I, FREDERICK SCHWARZ, citizen of the United States, residing at Berne, in the county of Adams and State of Indiana, have invented certain new and useful Improvements in Rotary Swings, of which the following is a specification.

My invention relates to new and useful improvements in swings, and as its principal object aims to provide an apparatus of this character consisting essentially in a supporting frame and a body which is rotatably mounted therein and is equipped with a passenger seat and a counterweight.

15 A further object is to so mount the counterpoise in the body of the swing that the passenger may adjust the counterpoise longitudinally of the body so that the swing may be actuated without the aid of mechanical power.

The above recited and other incidental objects of a similar nature are accomplished by such means as are illustrated in the accompanying drawings, described in the following specification, and then more particularly set forth in the claims, which are appended hereto and form a part of this application.

With reference to the drawings, wherein there has been illustrated the preferred embodiment of this invention as it is reduced to practice, and throughout the several views of which similar reference characters designate corresponding parts, Figure 1 is a front elevation of the apparatus, showing the body of the swing in vertical position; Fig. 2 is a section on the line 2—2 of Fig. 1; Fig. 3 is a side elevation of a swing, showing the body thereof at different points in its rotation; and Fig. 4 is a section on the line 4—4 of Fig. 1.

As illustrated in the accompanying drawings, my swing includes a supporting frame and a body portion which is rotatably mounted therein.

The supporting frame preferably consists in a pair of parallel spaced uprights 10 and 11, the lower terminals of which are mounted at the intersection of a longitudinal base member 12 with a pair of longitudinally spaced transversely extending base plates 13 and 14. The terminals of the members 14 and the adjacent terminal of the member 12 are connected to an intermediate point of the upright 10 by means of strap iron braces 15, the lower terminals of which are secured

by bolts or similar fastening devices 16 and the upper terminals of which are all connected by a single bolt 17 to the member 10. Similar braces, indicated at 18, are connected at their lower terminals by bolts 19 to the terminal of the member 13 and the adjacent terminal of the member 12. These braces are also secured by a single bolt 20 at a point intermediate the upright 11, at the upper terminals of the members 10 and 11.

The body of the swing consists essentially in a frame which includes a pair of parallel spaced beams 21 and 22 which are rigidly connected and held in the desired spaced relation to each other by transverse strap iron braces 23, 24 and 25. These braces 23, 24 and 25 are substantially U-shaped and are secured by fastening bolts or similar devices through their parallel arm portions and 75 through the members 21 and 22. Passing through the approximate centers of the beams 21 and 22 is an axle 26, the terminals of which are journaled in bifurcations formed in the upper terminals of the members 10 and 11, as will be plainly seen upon reference to Fig. 1.

As a means for properly spacing the beams 21 and 22 from the uprights 10 and 11, I provide the spacing disks or washers 27 and 28 which are of metal or any suitable composition. One terminal of the beam 21 extends beyond the adjacent terminal of the member 22 so that a pivoted catch member 29, which is U-shaped in conformation, may be swung to brace the member 21 for holding the body of the swing against rotation. A pin, indicated at 30, is employed for limiting the swinging movement of the member 29.

To the transverse brace 25 at one terminal of the body of the swing I secure a bracket plate 31, in the bearings 32 of which is journaled an axle 33. On this member 33 is journaled a sprocket 34 over which passes a chain 35 employed in adjusting the counterpoise of the swing. The counterpoise consists in a number of weights which are preferably in the nature of iron bars, indicated at 36. These bars are approximately 105 fifty-pounds each in weight and are connected to each other as a unit by means of screw-rods 37 and wing nuts 38. It will be obvious that a member 36 may be added or removed to adapt the swing for use by a light or 110 heavy passenger.

As stated, the counterpoise is adapted to

be longitudinally adjusted with respect to the body member, and for this purpose, therefore, I provide the supporting and guiding strips 39 which are secured to the inner faces of the beams 21 and 22 in transverse alinement with each other. These members 39 are received within grooves formed in the terminals of the members 36, and as will be obvious upon reference to Fig. 1 serve not only to guide the counterpoise in its movement through the body but also serve to support the counterpoise. It is now to be observed that the brace member 24 is arranged a convenient point for limiting the movement of the counterpoise toward the axle 26.

At that end of the body portion of the swing opposite to the bracket 25, and consequently on the opposite side of the axle 26, is secured the passenger seat 40. This seat 40 includes a back rest 41, the seat portion 42, and a foot rest 43. The seat is properly secured to the body of the swing by a pair of hook members 44, the lower terminals of which are secured to the seat by chains 45, the upper terminals of which are freely mounted on a crank 46. The terminals of this crank 46 are journaled in bearing plates 47 secured to the beams 21 and 22 in transverse alinement to each other. One member 44 is mounted directly on the crank, while the other member 44 embraces the hub 48 of one of the members 47 and is held against displacement therefrom by an annular collar or flange, indicated at 49. It will be obvious that since the hooks 44 freely engage the crank 46 and hub 48, the seat 40 will at all times depend from the body of the swing.

In order to permit the passenger to adjust the counterpoise at all times during the rotation of the body of the swing, I provide a chain 50 which is passed over sprockets 51 and 52 carried respectively by the crank 46 and the axle 53. The axle 53 is journaled in the beams 21 and 22, as shown in Fig. 1 and carries a second sprocket 54. Over this sprocket 54 is passed the chain 35. One terminal of this chain 35 is connected by an eyelet 56 to the one side of the counterpoise, while the other terminal of the chain is connected by an eyelet 57 to the opposite side of the counterpoise.

It will now be seen upon reference to Fig. 1 that the passenger may, by manipulating the crank 46, readily move the counterpoise longitudinally over the guides 39. In this connection it is to be noted that the rotation of the crank will cause, through the medium of the chain 50, the rotation of the sprocket 52 and the consequent rotation of the sprocket 54. The rotation of the sprocket 54, of course, draws in or pays out the chain 35, with the resultant movement of the counterpoise toward or away from the axle 26.

In order to permit the passenger to lock

the counterpoise in finally adjusted position, a clutch, indicated at 58, is employed. This clutch 58 is in the nature of a sleeve which is slidable on the crank 46 and is held against rotation thereon by a pin 59. If desired, of course, a key may be substituted for the pin. The hub 48 is provided at its inner terminal with teeth adapted to be engaged with the teeth of the clutch sleeve 58. It will now be seen that the passenger may readily lock the counterpoise in adjusted position by sliding the clutch 58 into engagement with the hub 48 so as to prevent further rotation of the crank 46.

The actual construction and arrangement of the several parts of the swing being thus disclosed, it now remains to explain briefly the manner in which the passenger manipulates the counterpoise in effecting the rotation of the swing. Briefly the operation is as follows: Upon assuming a seat the passenger first adjusts the counterpoise 36 so that it will slightly over-balance the body of the swing. During such primary adjustment of the counterpoise the body of the swing is held in position by an assistant. When the assistant releases the body of the swing, it is obvious that the counterpoise being disposed as it is such distance from the body of the swing as to over-balance the weight of the passenger will cause the seat carrying terminals of the beams 21 and 22 to swing upwardly.

Referring now to Fig. 3, it will be seen that the counterpoise is allowed to remain in over-balancing position until it reaches the lowest point in its rotation. As the counterpoise passes between the uprights 10 and 11, however, the passenger rotates the cranks 46 in such manner as to draw the counterpoise in toward the axle 20 so that the effect of the counterweight will be overcome by the passenger's own weight. Of course, when the counterpoise has started to move upwardly, as at the right hand side of Fig. 3, the passenger has started to come down. The momentum which the passenger's weight imparts to the swing will be sufficient to carry the beams 21 and 22 beyond any dead center which might occur when they are in vertical position. As the passenger passes between the uprights 10 and 11, he again manipulates the crank 46 to move the counterpoise out toward the end of the beams 21 and 22, so that the maximum effect of the counterpoise may be obtained when the passenger carrying terminal of the swing body is moving upwardly.

In reduction to practice, it has been found that the form of this invention illustrated in the drawings, and referred to in the above description as the preferred embodiment, is the most efficient and practical; yet realizing that the conditions concurrent with the adoption of this device will necessarily

vary, it is desirable to emphasize the fact that various minor changes in details of construction, proportion and arrangement of parts may be resorted to, when required, 5 without sacrificing any of the advantages of this invention, as defined in the appended claims.

Having thus described the invention, what is claimed as new is:—

10 1. A swing of the character described including a supporting frame, a body member mounted for rotation in the frame, a passenger seat supported at one end of the body member, a counterpoise mounted at the 15 other terminal portion of the body member, and means operable from the passenger seat for adjusting the counterpoise longitudinally with respect to the body member, said means including a crank terminally journaled in the side members of the body member and disposed within reach of the passenger seat, and flexible means operatively connecting the crank to the counterpoise.

20 2. A swing of the character described including a supporting frame, an axle carried thereby, a body member consisting in a frame journaled intermediate its length on the axle and adapted to rotate thereabout, a passenger seat supported at one end of the 25 body member, a crank carried by the body member and disposed within reach of the passenger seat, a counterpoise mounted at the end of the body member opposite to the passenger seat, a chain secured at its terminals to the counterpoise, longitudinally spaced sprockets carried by the body member, said chain operating over said sprockets, and a chain operatively connecting the crank to one of said sprockets 30 40 whereby the counterpoise may be adjusted longitudinally of the frame from the passenger seat.

35 3. A swing of the character described including a supporting frame, a body member rotatable therein, a passenger seat suspended at one end of the body member, a counterweight mounted at the other end of the body member, longitudinally extending guide members for supporting and guiding the counterweight, a crank journaled in the body member within reach of the passenger seat, and flexible means operatively connecting the crank to the counterweight whereby the counterweight may be adjustable longitudinally of the body member 50 from the passenger seat.

45 4. A swing of the character described in-

cluding a supporting frame, a body member rotatably mounted therein, a passenger seat suspended at one terminal to the body member, a counterweight mounted for longitudinal movement at the other terminal of the body member, said counterweight including a plurality of bar members and fastening members connecting the bars, and means 60 operable from the passenger seat for adjusting the counterweight longitudinally of the body member.

5. A swing of the character described including a supporting frame, a body member 70 rotatable therein, a passenger seat suspended at one end of the body member, a counterweight adjustable longitudinally at the other end of the body member, guide members carried by the body member and 75 serving to support and guide the counterweight, longitudinally spaced sprockets mounted in the body member at one side of the center thereof, a chain engaging the sprockets and terminally connected to the 80 counterweight, a crank journaled in the body member within reach of the passenger seat, and a chain operatively connecting the crank to the first-mentioned chain whereby the counterweight may be adjusted longitudinally 85 within the body member from the passenger seat.

6. A swing of the character described including a supporting frame, a body member rotatable therein, a passenger seat, a 90 counterweight, said counterweight and passenger seat being disposed on opposite sides of the axis of rotation of the body member, and means operable from the passenger seat for adjusting the counterweight longitudinally with respect to the body member. 95

7. A swing of the character described including a supporting member, a body member rotatable therein, a passenger seat, a counterweight, said passenger seat and 100 counterweight being disposed on opposite sides of the axis of rotation of the body member, means operable from the passenger seat for adjusting the counterweight longitudinally with respect to the body member, 105 and means for locking the counterweight in adjusted position.

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

FREDERICK SCHWARZ. [L. S.]

Witnesses:

JOHN A. BIXLER,

ANDREW GOTTSCHALK.