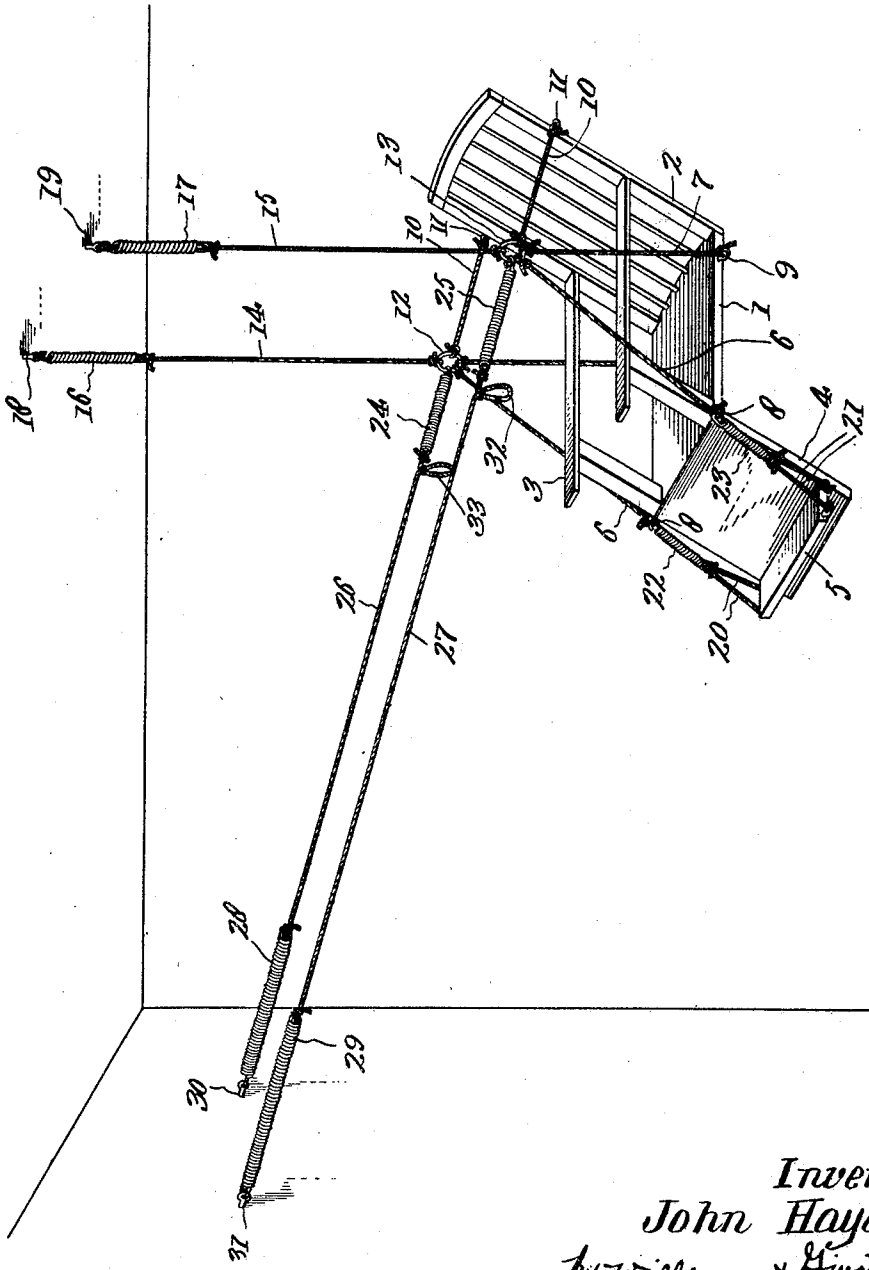
J. HAYES.

SWING.

APPLICATION FILED SEPT. 8, 1919. RENEWED DEC. 14, 1920.

1,368,146. Patented Feb. 8, 1921.



Inventor.
John Hayes.
by Wilkinson & Giusta.
Attorneys.

# UNITED STATES PATENT OFFICE.

JOHN HAYES, OF WAUPUN, WISCONSIN.

## SWING.

1,368,146. Specification of Letters Patent. Patented Feb. 8, 1921.

Application filed September 8, 1919, Serial No. 322,296. Renewed December 14, 1920. Serial No. 430,747.

*To all whom it may concern:*

Be it known that I, JOHN HAYES, a citizen of the United States, residing at Waupun, in the county of Fond du Lac and State of Wisconsin, 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.

The present invention relates to improvements in swings, and has for an object an improved swing having a novel suspension and improved means whereby the swing may be put in motion.

Another object of the present invention is to provide a device of the above character, in which the swing is suspended by springs and controlled or swung by springs; and the invention is useful in connection with chair swings, cots, invalid chairs, baby jumpers and the like.

In the accompanying drawing forming a part of this application, and in which similar reference symbols indicate corresponding parts, the figure is a perspective view of an improved swing constructed in accordance with the present invention.

Referring now more particularly to the drawings, which show only a single embodiment of which the invention is susceptible, the invention is shown in connection with a swinging chair, but this is merely for convenience in illustration and it will be understood that a cot, invalid chair, baby jumper, or other suitable article of furniture might be substituted for the chair shown, without in any way changing the principle of the invention.

The chair illustrated is constructed with a seat 1, back 2, arms 3, an apron or riser 4, and a foot rest 5. A pair of leads 6 and a pair of leads 7 have their lower ends secured in eyes 8 and 9 carried by the front and rear portions of the chair, respectively, and a third pair of leads 10 have their rear ends connected in eyes 11 secured to the back 2 of the chair. The leads 6, 7 and 10, at each side of the chair, are brought together and secured in rings 12 and 13. The rings 12 and 13 are supported by ropes or cables 14 and 15, attached at their upper ends to coil springs 16 and 17 which are secured to fastenings 18 and 19 held by a suitable support, such, for instance, as the roof of a porch or the horizontal beam of a swing frame.

The foot rest 5 is so arranged as to move up and down over the apron or riser 4 and is supported by pairs of divided leads 20 and 21, which are connected to coil springs 22 and 23 which have their upper ends engaging in the eyes 8 previously referred to.

To the rings 12 and 13 are also connected a pair of coil springs 24 and 25, which are in turn connected to ropes or cables 26 and 27, the latter having their outer ends joined to other coil springs 28 and 29 fastened in a wall or other object, as indicated at 30 and 31. Hand holds or loops 32 and 33 are made in the ropes or cables 26 and 27 at the ends adjacent the springs 24 and 25.

In use the occupant of the chair grasps the loops 32 and 33 in the right and left hands, respectively, and by pulling such loops toward him causes the chair to swing on the supporting cables 14 and 15 toward the wall to which the pulling ropes 26 and 27 are connected. The coil springs 28 and 29 yield under this pulling action and render the movement easier for the occupant to accomplish and less likely to jerk the chair 1.

In executing this pulling movement the occupant of the chair 1 will draw his hands which are engaged in the loops 32 and 33, toward his body, which will be allowed by the yielding of the coil springs 24 and 25. However, after the chair 1 has reached the limit of its forward movement and starts to swing on the return backward movement the springs 24 and 25 will be gradually distended as this backward movement of the chair continues, and as such springs are distended they will tend to draw the occupant's hands away from the body and to an extended position in readiness for the next pulling action.

The springs 24 and 25, being placed under a tension by the rearward movement of the chair, will also assist to cushion the chair 1 at the end of its rearward movement and ease it into the next successive forward movement. Both the pair of springs 24 and 25 and the pair of springs 28 and 29 will be put under tension by the rearward movement of the chair and will consequently act to draw the chair forwardly.

The foot rest 5 is yieldingly supported by the springs 22 and 23 so as to give in accom-

paniment to the motions of the occupant's body as he pulls upon the hand holds 32 and 33.

The springs 16 and 17 yieldingly support the chair 1 and absorb any shocks or violent vibrations that would otherwise be transmitted to the occupant.

The herein described swing is specially for use as an appliance for invalids, and is so constructed that when in operation the muscles of the arms, limbs, and back, in fact nearly all muscles of the body, are brought into play, and also that the occupant may so exercise with more or less vigor as his condition warrants.

It is obvious that those skilled in the art may vary the details of construction and arrangement of parts without departing from the spirit of my invention, and therefore I do not wish to be limited to such features except as may be required by the claims.

I claim:

1. An improved swing including a support for holding an occupant, means whereby such support may be suspended for swinging movement, cables connected to such support and a fixed object and adapted to be engaged by the occupant for pulling the swing forwardly, and means for moving said cables and the hands of the occupant engaging the same away from the occupant's body when the swing moves rearwardly to an extended position in readiness for the next pulling action, substantially as described.

2. An improved swing including a support for an occupant, means for suspending said support for swinging motion, pulling cables attached to the support and to a fixed object, hand holds on said cables adapted to be engaged by the hands of the occupant in the support, and resilient means connected between said hand holds and the support, substantially as described.

3. An improved swing including a support for an occupant, means for suspending said support for swinging motion, pulling cables attached to the support and to a fixed object, hand holds on said cables adapted to be engaged by the hands of the occupant in the support, resilient means connected between said hand holds and the support, and resilient means also included in said cables at the sides of the hand holds away from said support, substantially as described.

JOHN HAYES.