

L. T. TURMELLE.
 AUTOMATIC SWING.
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989,517.

Patented Apr. 11, 1911.

2 SHEETS—SHEET 2.

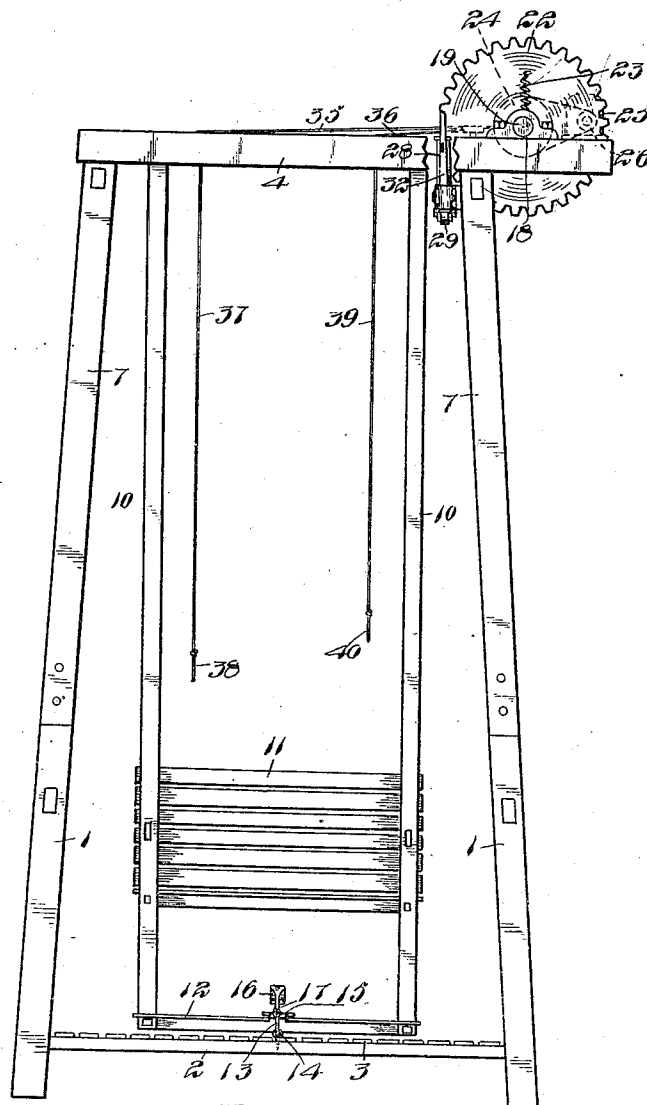


Fig. 2.

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AUTOMATIC SWING.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS THEODORE TURMELLE, resident of Lake Etchemin, county of Dorchester, Province of Quebec, Dominion of Canada, laborer, having invented certain new and useful Improvements in Automatic Swings, do hereby declare that the following is a full, clear, and exact description of the same.

10 The invention relates to improvements in automatic swings, as described in the present specification and illustrated in the accompanying drawings that form part of the same.

15 The invention consists of the novel construction and arrangement of parts whereby the oscillation of the swing body is maintained by the continuous rotation of the shaft, suitably journaled in the supporting frame.

20 The objects of the invention are to devise a swing for pleasure resorts and gardens that may be operated safely by children and those inexperienced with mechanical and electrical machinery, and to provide a simple and reliable mechanism and a safe structure for the purpose.

25 In the drawings, Figure 1 is a perspective view of the structure partially broken away at the upper end, showing the operating mechanism. Fig. 2 is an end elevation of the swing. Fig. 3 is an enlarged perspective detail of a portion of the frame and a spring pawl. Fig. 4 is a detail of the 30 toothed wheel and its spring connections to the shaft and the pulley mounted on the shaft.

Like numerals of reference indicate corresponding parts in each figure.

40 Referring to the drawings, 1 are the uprights of inverted V-shaped form.

2 are the cross bars supporting the platform 3.

4 is a rectangular frame supported at the 45 upper end of the uprights 1 and extending beyond said uprights at one side thereof.

5 is a cross beam extending between the side beams of the frame 4 and rigidly secured to one of the uprights 1.

50 6 is a central longitudinal beam between the cross beam 5 and one of the end beams of the frame 4.

7 are struts extending downwardly from the frame 4 and rigidly secured to the uprights 1 intermediate of the height thereof.

8 is the top beam of the swing having shaft extensions therefrom journaled in the bearings 9.

10 are the vertical side bars of the swing rigidly secured to the top beam 8 at their 60 upper ends.

11 is a seat firmly secured to the vertical bars 10.

12 is the foot-board secured to the bottom of the vertical bars 10. 65

13 is a wire secured to the eye 14 at the rear end of the platform 3 at one end and having at the other end the loop 15.

16 is a foot lever pivotally secured to the foot-board 12 toward the front edge thereof 70 and having a hook projecting therefrom engaging the loop 15 for retaining the seat to its rear position so that on pressing the said lever 16 with the foot, the looped wire or rope 13 is released from engagement with 75 the hook 17 and the swing set in motion.

18 are bearings supported on one of the side beams of the frame 4 and the beam 6 respectively intermediate of the lengths thereof. 80

19 is a shaft journaled in the bearings 18.

20 is a sleeve mounted on the shaft 19 and having the circumferential slots 21 there-through.

22 is a toothed wheel fixedly mounted on 85 the sleeve 20 between the slots 21.

23 are spiral springs at one end extending through the slots 21 and secured to the shaft 19 and at the other end secured to the side faces of the wheel 22, intermediate of the 90 distance between the center and the teeth thereof.

24 is a pulley fixedly mounted on the shaft 19 beyond the inner one of the bearings 18. 95

25 is a motor supported on the end beam of the frame 4.

26 is a pulley mounted on the motor shaft, operatively connected with the pulley 24 by the belt 27, said transmission of power 100 from the motor to the shaft 19 being designed to impart a comparatively slow motion to said shaft 19.

28 is an arm extending laterally from and fixedly secured to the top beam 8. 105

29 is a pivoted lever secured to the outer end of the arm 28.

30 is a spring secured to the pivoted lever 29 and the arm 28, and exerting a backward pull on said lever 29. 110

31 is a guiding plane rigidly secured to the frame 4 and engaged by the back of the head of the lever 29.

32 is a spring-held locking pawl pivotally secured to a strut 7 and normally engaging the tooth of the wheel 22, said pawl being released from engagement with said wheel at each upward movement of the pivoted lever 29, said pivoted lever being a releasing lever to permit the rotation of the wheel 22 to the extent of one tooth, therefore, at each forward swing of the seat 11, as said releasing lever 29 makes an upward movement and releases the pawl 32, thus allowing the wheel 22 to rotate and making that rotation intermittent to correspond with the oscillation of the said seat. The pivoted lever 29 has a recess 33 to receive the tooth of the wheel 22, which is released from engagement with the pawl 32, consequently as the seat begins to swing backwardly, the lever 29 moves downwardly, thereby traveling with the rotation of the wheel, the spring pawl returning to engagement with the wheel at the next succeeding tooth.

34 is a lever pivotally secured to the cross beam 5 and connected to the stopping and starting mechanism of the motor by the rods 35 and 36 respectively.

37 is a cord at its upper end connected to one end of the lever 34 and at its lower end having the handle 38, said cord extending through a suitable hole in the top beam 8.

39 is a cord at its upper end secured to one end of the lever 34 and having at its lower end the handle 40, said cord extending through a suitable hole in the cross top beam 8.

The cords 37 and 39 extend downwardly to within easy reach from the seat 11, consequently the passenger may readily control the operation of the motor from his position on said swing.

In the operation of the invention, the passenger seats himself comfortably and pulls the cord for starting the motor and presses his foot on the lever 16, and the seat, being in its extreme rear position, swings forwardly. The pivoted lever 29 slides upwardly, being guided by the plane 31 to the pawl 32, releasing said pawl from engagement with a tooth of the wheel 22. The shaft 19, which is rotating through its connection with the motor 25, exerts a pull on the springs 23, thus when the tooth is released from the pawl 32, the wheel springs forward to the extent of one tooth, and as the pivoted lever 29 has taken the place of the pawl 34, said pivoted lever is forced downwardly and consequently the arm 28. The said arm 28 being rigidly connected with the top beam 8, the seat is swung back to its rear position. This operation is continuous while the motor is going, as by the continual rotation of the shaft and the pre-

vention of the rotation of the wheel by the pawl 32, the tension of the springs 33 is maintained sufficiently to impart to said wheel an intermittent movement and this intermittent movement secures the backward swing of the seat.

What I claim as my invention is:

1. In an automatic swing, a frame, a shaft journaled in said frame, means for driving said shaft, a swinging frame supported by the aforesaid frame, a fixed member secured to said swinging frame, a toothed wheel, resilient means connecting said wheel to said shaft, a spring pawl engaging said wheel, and a pivoted lever secured to said fixed member engaging said pawl and engaged by said wheel intermittently.

2. In an automatic swing, a frame, a swinging frame supported by the aforesaid frame, a fixed member extending from said swinging frame, a pivoted lever secured to said fixed member at the outer end thereof, a shaft journaled in said supporting frame, means for driving said shaft, a sleeve encircling said shaft having circumferential slots therethrough, a toothed wheel mounted on said sleeve between said slots, spring members connecting said wheel with said shaft through said slots, and a pawl pivotally secured on a supporting frame and spring-held from engagement with said toothed wheel and arranged in the path of said pivoted lever in its upward movement.

3. In an automatic swing, a frame, a swinging frame suitably journaled and supported in the aforesaid frame, a fixed arm extending from said swinging frame, a pivoted lever spring-held to its rear position and secured at the outer end of said fixed arm, a guiding plane secured to the supporting frame for said fixed lever, a shaft suitably driven and journaled in said supporting frame, a sleeve mounted on said shaft having circumferential slots therethrough, a toothed wheel mounted on said sleeve between said slots, and a pawl pivoted to said supporting frame for engaging said toothed wheel and engaged by said pivoted lever during the oscillation of said swinging frame.

4. In an automatic swing, a frame, a swinging frame formed of a top beam journaled in said supporting frame and vertical sides extending downwardly therefrom, a seat secured to said vertical sides, a fixed arm extending laterally from said top beam, a lever pivotally secured at the end of said fixed arm, a driven shaft journaled in said frame, a sleeve having circumferential slots therethrough mounted on said shaft, a toothed wheel mounted on said sleeve between said slots, a pair of spiral springs secured at one end to said shaft through said slots and at the other end to said wheel intermediate of the distance between the cen-

ter thereof and the teeth, and a pawl pivotally secured to said frame and engaging a tooth of said wheel in the path of the upward movement of said pivoted lever.

5 5. In a device of the class described, in combination, a frame, formed of a pair of inverted V-shaped uprights, a platform supported toward the lower end of said frame, a rectangular frame supported by the afore-
10 said frame at the upper end thereof, bearings in said rectangular frame, a swinging frame formed of a top beam journaled in said bearings and vertical sides extending downwardly therefrom and rigid with said
15 stop beam, a seat carried by said vertical sides, means for retaining and releasing said swinging frame from its rearward position, and means supported by said upper frame for engaging said swinging frame at the
20 limit of its forward movement and imparting to said swinging frame an impetus rearwardly.

6. In a device of the class described, in combination, a frame formed of suitable up-
25 rights, a mechanism frame supported at the upper end of said uprights, a motor carried by said mechanism frame, a shaft journaled in said mechanism frame and driven by said motor, a sleeve mounted on said shaft hav-
30 ing a circumferential slot therethrough, a toothed wheel mounted on said sleeve adjacent to said circumferential slot, a spiral

spring at one end secured to said wheel between the center thereof and the teeth and at the other end extending through said cir- 35 cumferential slot and secured to the shaft, a locking pawl engaging said toothed wheel, a swinging frame journaled between the aforesaid uprights, and means secured to said swinging frame for temporarily releas- 40 ing said locking pawl at the limit of the forward movement of said swinging frame.

7. In a device of the class described, in combination, a frame formed of suitable up-
rights, a swinging frame suitably journaled 45 and supported between said uprights, a seat and foot-board carried by said swinging frame, a platform toward the lower end of said supporting frame uprights, a cable secured at the rear end of said platform and 50 having a loop at its front end, a foot lever pivotally secured to said foot board and having a hook member engaging said cable loop, and means at the upper end of said support-
ing frame for imparting to said swinging 55 frame a rearward impetus at the limit of its forward movement, subsequent to the release of said loop from said foot lever.

Signed at Lake Etchemin, this fourth day of December 1910.

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Witnesses:

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