No. 770,071. PATENTED SEPT. 13, 1904.

C. V. JOHNSON.

AMUSEMENT APPARATUS.

APPLICATION FILED MAY 16, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

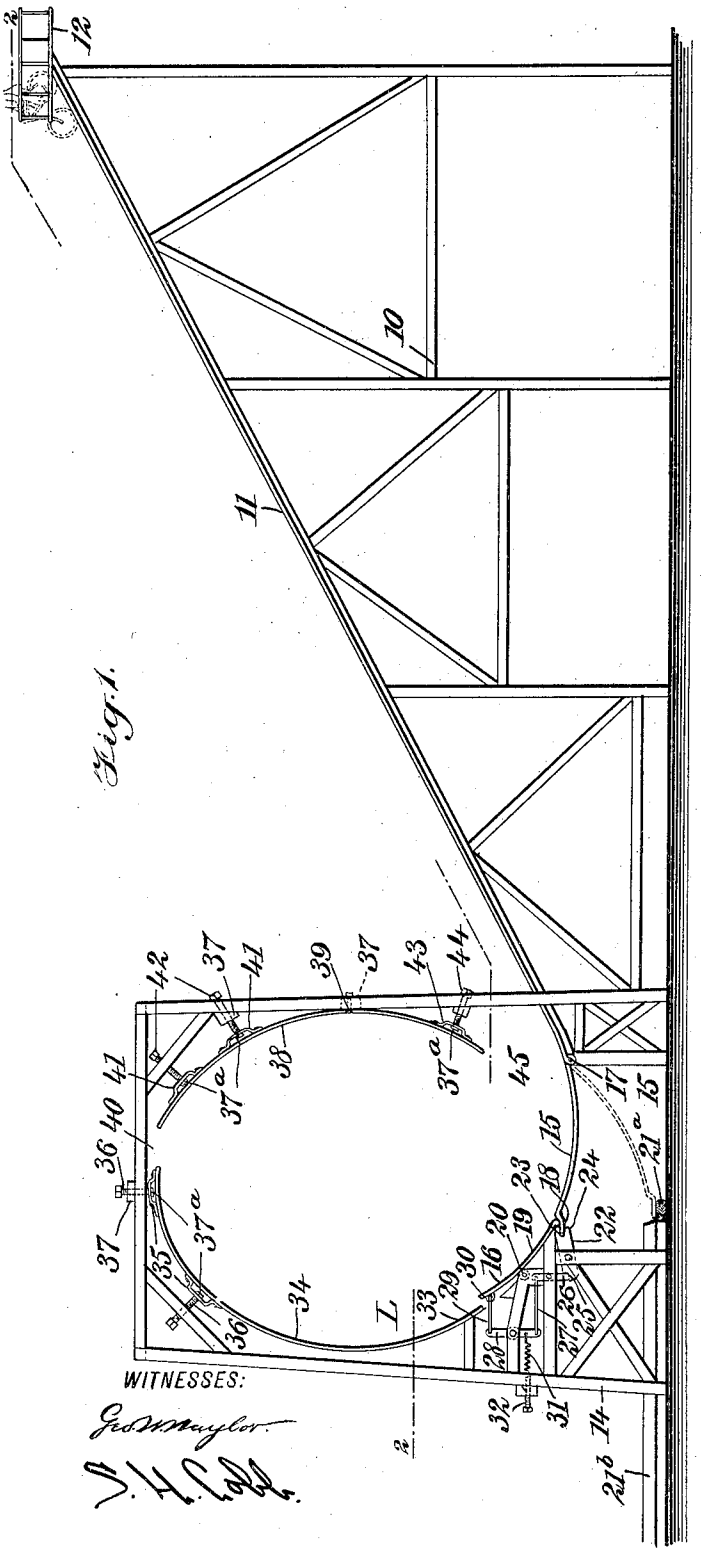


Fig. 1.

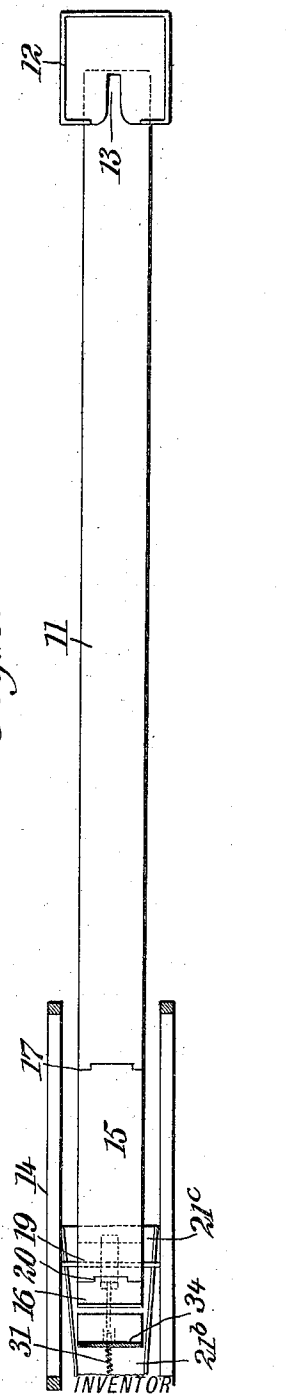


Fig. 2.

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NO MODEL. 2 SHEETS—SHEET 2.

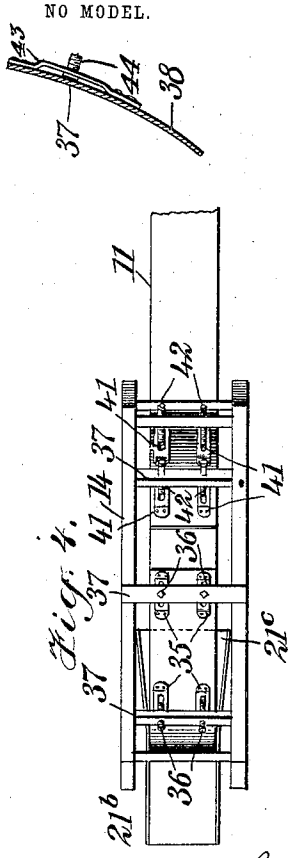


Fig. 4.

Fig. 3.

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No. 770,071. Patented September 13, 1904.

UNITED STATES PATENT OFFICE.

CARL V. JOHNSON, OF SALT LAKE CITY, UTAH.

AMUSEMENT APPARATUS.

SPECIFICATION forming part of Letters Patent No. 770,071, dated September 13, 1904.

Application filed May 16, 1904. Serial No. 208,140. (No model.)

To all whom it may concern:

Be it known that I, CARL V. JOHNSON, a citizen of the United States, and a resident of Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and Improved Amusement Apparatus, of which the following is a full, clear, and exact description.

My invention relates to amusement apparatus in which a rolling object, such as a bicycle, under the control of a rider travels about a vertical looped way or path by virtue of the centrifugal force generated and under the momentum acquired from the passage down an incline leading to the loop. It is more particularly applicable to apparatus in which a portion of the path is omitted to cause the rider to leap across the gap thus formed under the impetus he has attained. In the performance of such feats two difficulties are encountered. First, it is important that the rider shall be able to follow a substantially direct course without lateral deviation, and to this end an effective trap device must be provided to direct him from the incline into the loop and then open and automatically release him from the latter; second, in leaping the space it is essential that the bicycle-wheels strike simultaneously to avoid shocks. The manner in which the wheels alight is largely a question of the personal equation of the rider, it varying with the position and like matters of poise or muscular action, and to adapt the apparatus to the rider the form or direction of the path must be varied.

The attainment of these ends is the principal object of my invention.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of one embodiment of the invention. Fig. 2 is a section therethrough on the line 2 2 of Fig. 1. Fig. 3 is an enlarged vertical longitudinal section through the trap and associated portions of the apparatus, and Fig. 4 is a top plan view of the loop portion.

10 designates a suitable framework which carries an inclined way or path 11. At the upper end of this path is supported a platform 12, which is shown as cut away at 13 to permit the exit of the rider. At the end of the frame 10 is a frame 14, in which is mounted the looped path L, this being preferably formed of comparatively thin or sheet metal. Between the incline and the loop are two movable sections 15 and 16. These may also be of thin metal. The first, which serves as a trap, is pivoted at one end to the end of the incline at 17 and from there is bent in the general curvature of the loop and has at its opposite extremity a tongue 18, which may extend beneath the edge of a bridge-piece 19, fixed to the frame and continuing the curve of the loop. Beyond and in alinement with this bridge-piece, it being pivoted adjacent thereto in the frame at 20, is a releasing-section 16, also curved in the general form of the loop and normally supported with its opposite or free extremity somewhat within the surface thereof. In the lower part of the frame 14 is a cushion 21^a, with which the trap-section may fall into contact, and beyond this is an exit-path 21^b, widening to give ample passage at 21^c.

Extending under the section 15 is a supporting member or lever 22, fulcrumed upon the frame and having a divided end provided with upper and lower contact-faces 23 and 24, respectively. At the opposite or outer end of the lever is a recess 25, with which may coact the lower end of a latch 26, swinging upon the frame. To the upper end of this latch is articulated a link or connecting-rod 27, joined at its opposite end to a rocking lever 28, mounted upon the frame, this lever being connected at its opposite end by a link 29 to the outer extremity of the releasing-section 16 through an eye 30. Attached to the lever 28 is a spring 31, here shown as of spiral form, and extending outwardly to a head 31^a, rotatable upon the end of a screw 32, threaded through the frame, its movement permitting an adjustment of the tension of the spring.

Adjacent to the upper end of the releasing-section is secured to the frame at 33 a section 34 of the loop, which curves upwardly and rearwardly and is provided near its upper end with two pairs of sockets 35 35, situated side by side across the section and engaged by

adjusting members or bolts 36, these being threaded through cross-bars 37 of the frame and having heads or enlargements 37ª turning within the sockets. Beyond this section 34 is a downwardly-extending or rear section 38, fastened to the frame at 39 and separated from its companion section by a space or gap 40. This portion 38 of the path is provided with pairs of sockets 41 41 and coöperating adjusting-screws 42, similar to those previously described and also threaded through bars of the frame. At the lower end of the section 38 is still another pair of sockets 43 43 with screws 44 operating in a frame-bar. Below these last-named adjusting-screws the section 38 of the loop terminates far enough from the incline to leave a space 45, permitting the rider to pass beneath it in his entrance into the loop.

In use the trap is raised to the position shown in full lines in Fig. 1 and in its upward movement engages an upper contact-face of the lever, swinging this upon its fulcrum and forcing the outer end down until it is engaged by the latch, which is held against it by the spring. This supports the trap upon the lower contact-face so that it forms a portion of the loop. The rider with a foot upon the platform at each side of the opening now mounts his bicycle and upon releasing himself passes down the incline across the trap and bridge and upon the releasing-section of the loop. This is depressed by his weight against the tension of the spring, as is illustrated in Fig. 3, and through the connecting system carries the latch out of contact with the supporting-lever. This removes the lower contact-face from beneath the trap, which drops by its own weight and is received by the cushion, preventing rebound, the end of the trap resting thereon in the same plane as the exit-path. The rider, as a result of the impressed momentum acquired in his passage down the incline, is carried up the loop and over the top, the effect of gravity being overcome by the centrifugal force generated. When he reaches the end of the section 34, the wheel leaps across the space to the rear section 38, down which he passes. At the termination of this section another leap is taken across the space 45 onto the lowered trap, which directs him safely into the exit-path. If it is found that in the leaps across the gaps the rider does not alight properly, but, instead, one of the wheels strikes before the other, tending to disturb his equilibrium, the ends of the sections may be adjusted by their screws, thus slightly varying the form of the loop and the relation of the ends of the sections, these adjustments being continued until the desired result is obtained. The variation in the tension of the spring also renders it possible to alter the resistance of the releasing-section to movement to provide for riders of different weights. It will thus be seen that the rider is not only automatically released from the loop by a sure and effective trap mechanism, but that the loop may also be adjusted to direct and receive him in the leaps in a manner which will least disturb his balance and control of the wheel.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an amusement apparatus, the combination with a looped way, of means for varying the form thereof.

2. In an amusement apparatus, the combination with a way having separated sections, of means for varying the relative position of the sections.

3. In an amusement apparatus, the combination with a looped way having separated sections, of means for varying the relative position of the sections.

4. In an amusement apparatus, the combination with a looped way having separated sections, of means for moving the ends of the sections.

5. In an amusement apparatus, the combination with a way having sections between which are spaces, of means for moving the sections at each side of the spaces.

6. In an amusement apparatus, the combination with a way having flexible sections between which are spaces, of means for bending the sections at each side of the spaces.

7. The combination with an inclined way, of a loop into which the incline leads, and means for varying the form of the loop.

8. The combination with an inclined way, of a loop into which the incline leads, said loop having independent sections, and means for moving one of the sections.

9. The combination with a frame, of a looped way supported thereon, and adjusting means for the loop carried by the frame.

10. The combination with a frame, of a looped way supported thereon, and screws extending through the frame and engaging the loop.

11. The combination with a frame, of a way supported thereon and comprising separated sections, and independent means for adjusting the sections.

12. The combination with a frame, of a way supported thereon and comprising separated sections formed of sheet metal, and means for bending the sections.

13. The combination with a frame, of a way supported thereon and comprising separated sections, sockets carried by the sections, and screws movable in the frame and engaging the sockets.

14. The combination with an inclined way, of a looped way, and a movable section connecting the ways and pivoted at the end adjacent to the inclined section.

15. The combination with an inclined way, of a looped way, a movable section connecting the ways, a supporting member for the sec-

tion, a latch for coaction with the supporting member, and a second movable section connected with the latch.

16. The combination with an inclined way, of a looped way, a movable section connecting the ways and pivoted at one end adjacent to the incline, and a cushion with which the opposite end may coact.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL V. JOHNSON.

Witnesses:
M. J. BRIDGMAN,
M. JOHNSON.