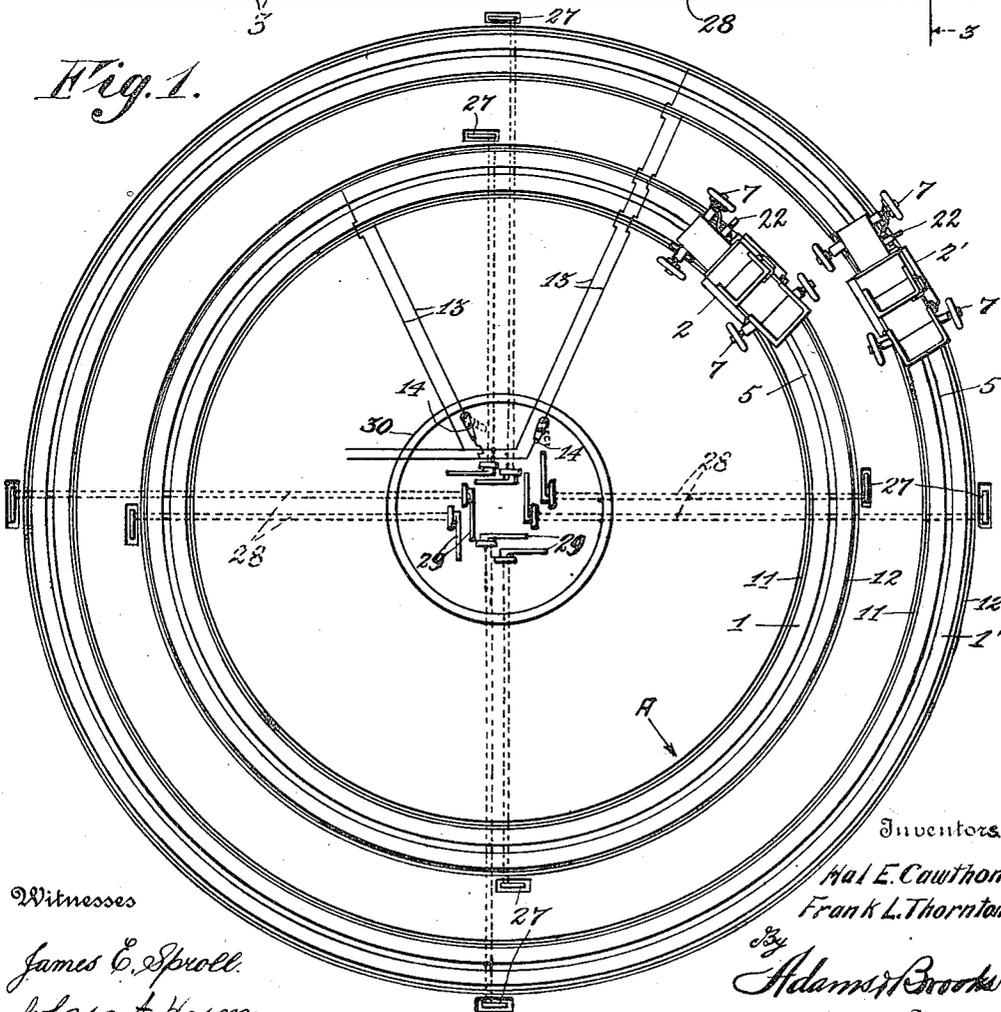
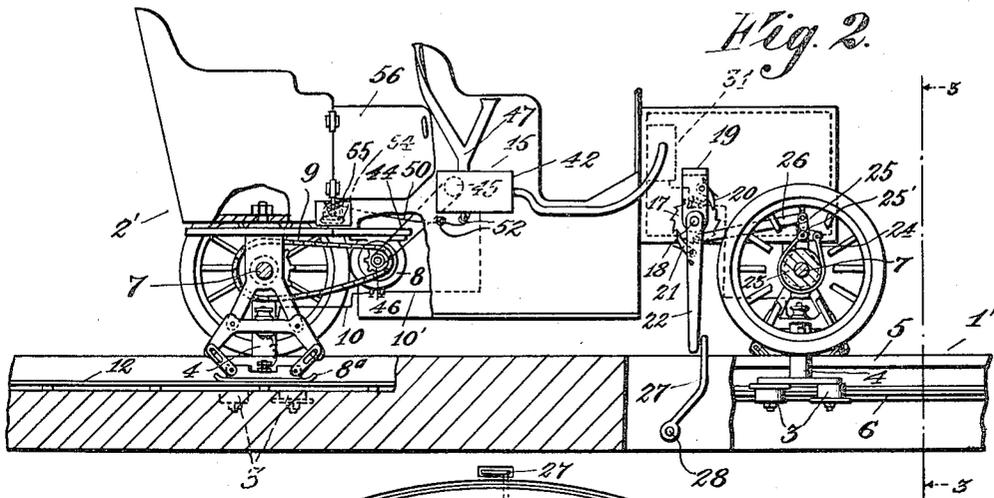


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 RACING AMUSEMENT APPARATUS.  
 APPLICATION FILED MAY 12, 1911.

1,064,681.

Patented June 10, 1913.

3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

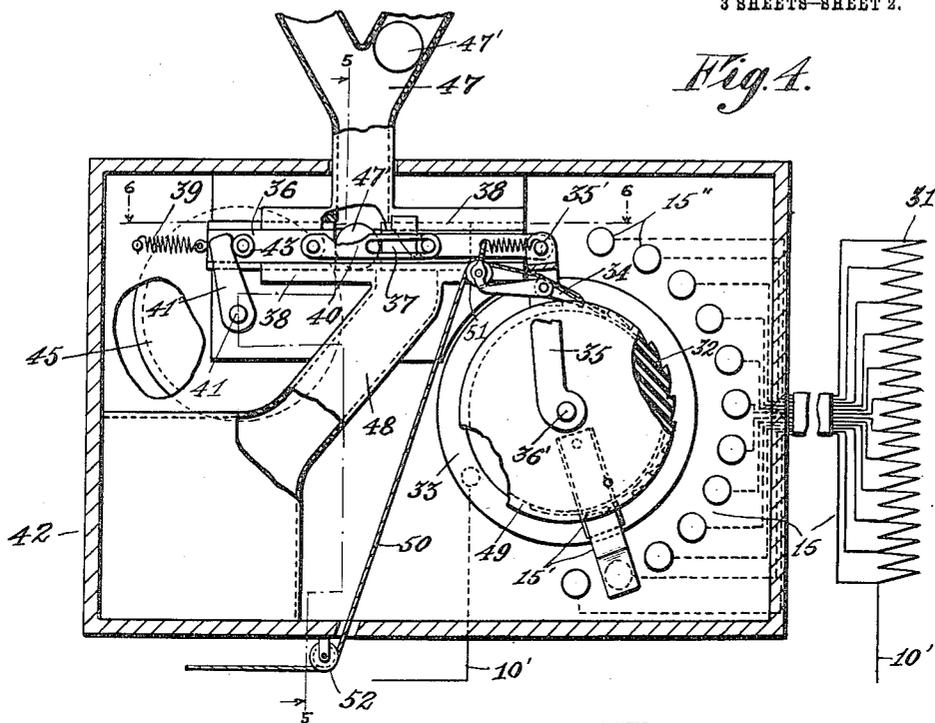


Fig. 4.

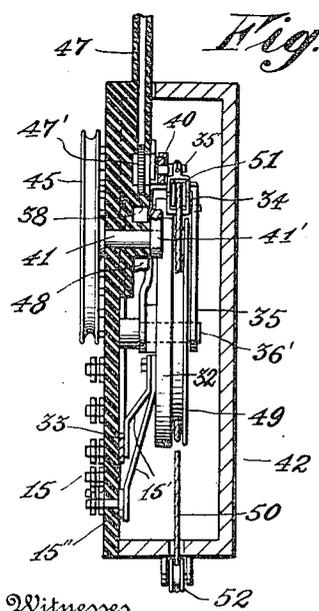


Fig. 5.

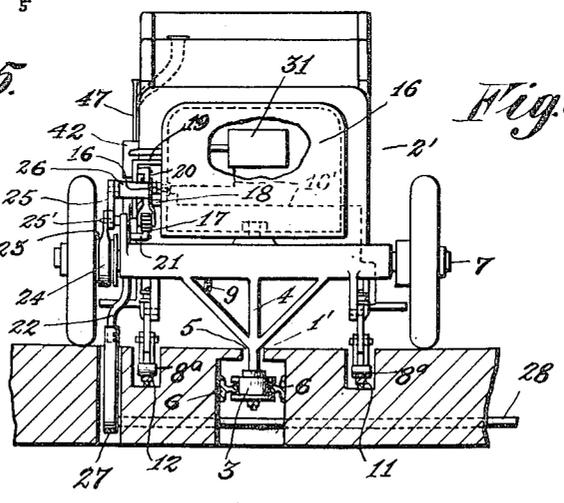


Fig. 3.

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3 SHEETS—SHEET 3.

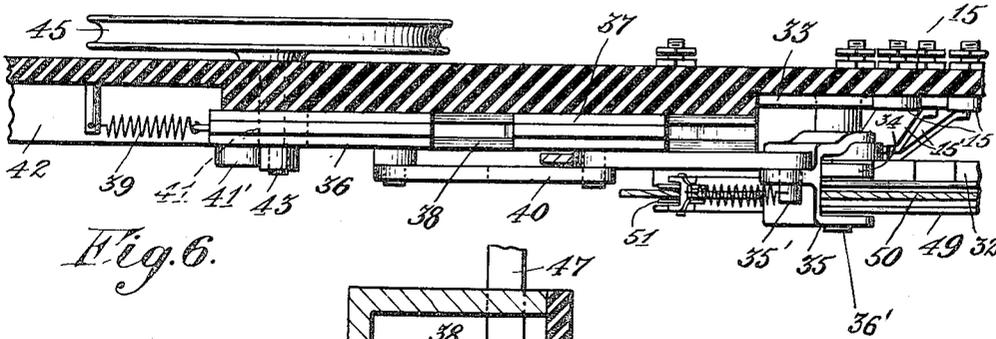


Fig. 6.

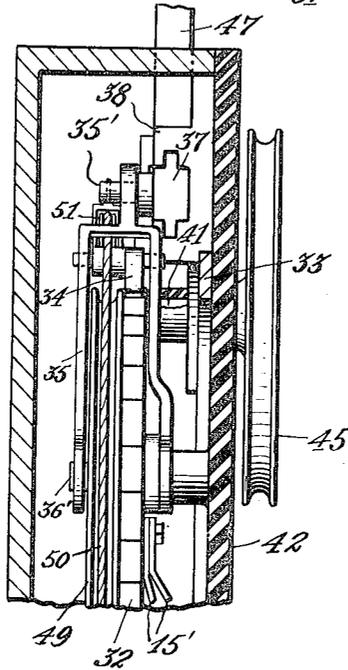


Fig. 7.

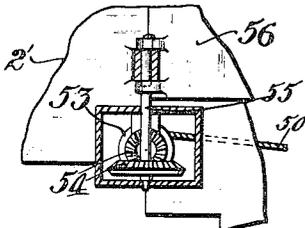


Fig. 10.

Fig. 8.

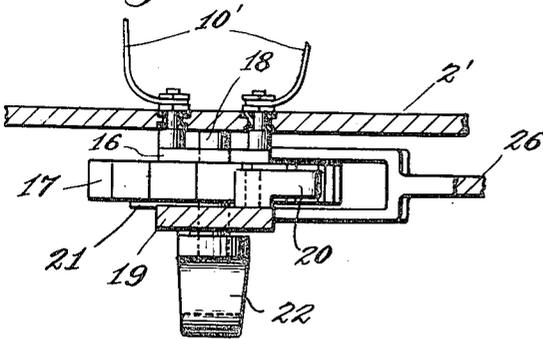
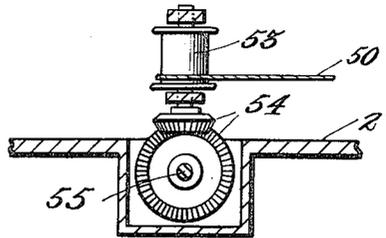


Fig. 9.



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# UNITED STATES PATENT OFFICE.

HAL E. CAWTHON AND FRANK L. THORNTON, OF SEATTLE, WASHINGTON.

## RACING AMUSEMENT APPARATUS.

1,064,681.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed May 12, 1911. Serial No. 626,792.

*To all whom it may concern:*

Be it known that we, HAL E. CAWTHON and FRANK L. THORNTON, citizens of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Racing Amusement Apparatus, of which the following is a specification.

Our invention has particular reference to apparatus of the above type and has for a primary object the provision of a novel construction including a plurality of vehicles arranged for travel over respective courses, and mechanism for controlling the operation thereof.

A further object is to provide mechanism for stopping the several vehicles.

Further, the invention resides in the provision of novel mechanism for controlling the speed of a motor vehicle.

Other objects will be set forth as our description progresses and those features of construction, arrangements and combinations of parts on which we desire protection, succinctly defined in our annexed claims.

Referring to the accompanying drawings showing a preferred embodiment of our invention and wherein like numerals of reference indicate like parts throughout the several views: Figure 1 is a plan illustrating a number of tracks and the vehicles connected to be controlled for travel thereon. Fig. 2 is a fragmentary side view, in partial section of one of the vehicles and the track therefor. Fig. 3 is a fragmentary vertical cross section taken on line 3—3 of Fig. 2, a portion of the vehicle being broken away. Fig. 4 is a vertical longitudinal section through the speed controlling mechanism, parts being broken away. Fig. 5 is a section taken on line 5—5 of Fig. 4. Fig. 6 is a fragmentary horizontal section taken on line 6—6 of Fig. 4. Fig. 7 is a fragmentary vertical section through the upper portion of the key controlled mechanism. Fig. 8 is a fragmentary section of the pawl and ratchet switch and brake controlling device. Fig. 9 is a horizontal section illustrating the resetting drum and the driving connection thereof, and Fig. 10 is a fragmentary detail illustrating more particularly the connection between the resetting drum and the vehicle door.

In carrying out our invention, we pref-

erably provide a plurality of concentric circular paths or tracks, as 1, 1' on which respective motor vehicles, as 2, 2' are guided for travel by the flanged guide wheels 3, journaled on brackets 4, which depend through slots, as 5 of the roadway and support the wheels 3 for snug reception between rails 6, as more clearly shown in Fig. 3. Brackets 4, are conveniently fixed to the supporting frames for the wheel axles 7 which latter are normally set diagonally with respect to the vehicle bodies, as shown in Fig. 1, for proper travel of the vehicles. Each vehicle is provided with a motor 8, which is connected, as by a chain 9, with the rear axle 7 for communicating movement thereto. Motor 8 is connected by leads 10, 10' with shoes, 8<sup>a</sup> projecting through suitable slots in the roadway and engaged with the conductor rails 11 and 12 respectively, which rails are connected to leads, as 13, provided with switches 14 and connected with a suitable source of electrical energy (not shown). In lead 10' of the motor circuit, we include a rheostatic controller 15 and a circuit breaking switch 16, the arm of the latter conveniently comprising a metallic plate carried by a ratchet wheel 17, of insulating material, and normally extending between and engaging suitable contacts of said lead. Ratchet wheel 17 is journaled on a shaft 18, in a bracket 19, which latter is provided with a spring pressed locking pawl 20 arranged for engagement with wheel 17. Reference numeral 21 indicates a spring pressed driving pawl for ratchet wheel 17, the same being carried by a depending swing arm 22, journaled on shaft 18. In conjunction with this circuit breaking switch we employ a brake device, this, as now considered, comprising a friction drum or disk 23, fixed to one of the forward supporting wheels and encircled by a brake band 24, whose end portions are connected with a bell crank lever 25, fulcrumed, as at 25' on a relatively fixed part of the vehicle. Lever 25 is pivotally connected by a link 26 with ratchet wheel 17, for operation thereby to control the application of braking band 24 to drum 23, as will be readily understood.

Reference numeral 27 indicates abutments or strike members which can be arranged alongside tracks 1, 1' at suitable intervals for projection into the paths of arms 22, the same being mounted in the roadway and

fixed to respective shafts 28, provided with suitable operating levers 29. Levers 29 and switches 14 are preferably arranged within a comparatively small compass, the same conveniently being provided in a centrally located tower or station 30, from which the attendant can have an unobstructed view of the vehicles during their entire travel.

In the operation of the mechanism thus far described, rheostatic controller 15 normally has its arm 15' set to include resistance 31 in the circuit, and switch 16 is closed, thereby holding braking band 24 in its disengaged position. With the vehicles 2, 2' arranged side by side at the starting point, as A, the operator closes switches 14 to thereby energize motors 8. Certain of the abutments 27 immediately precede the starting point A. A swing arm 22 upon striking an elevated abutment, is swung rearwardly thereby, operating driving pawl 21 to turn ratchet wheel 17, to open the circuit and apply brake band 24. Arm 22 returns to normal position by gravity, for further operation by the next abutment, should this be required, but ratchet wheel 17 is held by the locking pawl 20, which latter must be disengaged by an attendant and the ratchet wheel reset, prior to restarting of the vehicle. The intermediate abutments 27 are provided with a view to insure safety and can be operated at will to bring the vehicles to a stand still, as for example, in the event of an accident.

Rheostat arm 15' comprises a pair of branches, see Fig. 5 secured to a ratchet wheel 32, of insulating material, and one projecting beyond the other for engagement with a conductor ring 33, connected with one section of lead 10', and with the contacts 15'' of the rheostat resistance 31 respectively, by which construction the motor 8 can be operated with all or any portion of the resistance included in circuit therewith. To permit of such variation in the inclusion of resistance 31 in the motor circuit, being under control of an occupant or occupants of the vehicle, we have provided suitable mechanism, which will now be described.

Reference numeral 34 indicate a driving pawl for ratchet wheel 32, the same being pivotally mounted on a carrier 35, supported for oscillatory movement on the shaft 36' of wheel 32. For operating carrier 35, we provide drive and driven members 36 and 37 the latter of which is pivoted, as at 35' to said carrier. These members 36 and 37 conveniently consist of slides mounted in a suitable guide 38, and are adapted to be connected by what we term a "key", for movement of one by the other. A spring 39 retracts drive member 36 and the latter through a slotted link connection 40 communicates such movement to member 37, to

retract the same together with the carrier 35 after each actuation thereof.

Reference numeral 41 indicates a shaft, journaled in one wall of a suitable housing 42 for the rheostat operating mechanism, and provided with a wiper or arm 41' which during its rotary movement through engagement with a bearing part or roller 43 on drive member 36, advances the latter, and then wiping therefrom, leaves the same free to be again retracted, into its path, by spring 39. Shaft 41 is driven continuously by an endless flexible connection 44 taking over pulleys 45 and 46 on shaft 41 and the shaft of motor 8 respectively.

Communicating with guide 38 at a point intermediate the normal positions of drive and driven members 36 and 37 is a chute 47 through which the key 47', as for example a coin or the like, is inserted to fill the space between such members and thereby act to transmit the thrust of the drive member to the driven member and move therewith as a unit until drive member 36 starts on its return movement when said key will be freed and permitted to fall by gravity into a discharge chute 48. Such movement actuates carrier 35 to advance rheostat arm 15' a step, or from one contact 15'' to the next one, to thereby cut out a section of resistance 31. Carrier 35 and driven member 37 are returned to their normal positions by drive member 36 through link 40, which being slotted, as hereinbefore set forth, permits driven member 37 to remain idle during the constant reciprocatory movement of drive member 36 until a key is inserted. In this connection, it will be observed that the teeth of ratchet wheel 32 and the contacts 15'' correspond in number and therefore when rheostat arm 15' is adjusted to the last contact of the series, an untoothed portion of the ratchet wheel will oppose driving pawl 34 and consequently should any additional keys be inserted into the device, the resultant oscillations of carrier 35 will be idle ones.

Fixed to ratchet wheel 32 is a grooved wheel 49, in whose groove a cord 50 is secured, said cord engaging over a bearing roller 51 of pawl 34, and extending over guides, as 52, to a drum 53 to which it is made fast, in any desired manner. Drum 53 is connected by bevel gears 54 with a depending stem extension 55 of the hinge of the door 56, through the medium of which opening movement of the vehicle door 56 draws on cord 50 to first release pawl 34 and then return ratchet wheel 32 with rheostat arm 15' to their normal positions wherein, as now considered, said arm will engage the first contact 15'' of the series, by which construction the vehicle will run under a predetermined speed without the introduction of keys, the latter being employed

merely as one desires to accelerate the speed of his vehicle.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States of America, is:—

1. A power driven vehicle, means thereon for controlling the speed thereof, and movable means on said vehicle driven in common therewith for effecting adjustments of said first means to obtain an increase in the speed of the vehicle, said first means being normally disconnected from said movable means.

2. A power driven vehicle, normally inactive means thereon for controlling the feed of the driving agent, movable means on said vehicle driven in common therewith for effecting adjustments of said controlling means, and means whereby movement of said movable means is communicated to said first means to effect an increase in the speed of the vehicle.

3. A power driven vehicle, means thereon for controlling the feed of the driving agent, a continuously driven means normally free of said first means, and means whereby said last means is connected with said first means for adjusting the same intermittently.

4. In an electric motor driven vehicle, in combination with the motor and its circuit, a resistance, means for connecting said resistance in said circuit, a continuously operating means on said vehicle driven in common with the motor of said vehicle, and means for communicating movement from said last means to said first means for effecting intermittent adjustments of the latter.

5. In a motor driven vehicle, in combination with an electric circuit and the vehicle motor included therein, a rheostatic controller included in said circuit, and means driven in common with said motor for effecting intermittent adjustments of the rheostat arm, said means being normally free for movement independently of said controller.

6. In a motor driven vehicle, in combination with an electric circuit and the vehicle motor included therein, a rheostatic controller included in said circuit, means driven in common with said motor for effecting intermittent adjustments of the rheostat arm, comprising drive and driven members, and means whereby said members are connected for simultaneous movement.

7. A power driven vehicle, power controlling means thereon adjustable for varying the speed, and reciprocatory means

driven in common with said vehicle to be constantly moved back and forth for effecting adjustments of said controlling means in one direction.

8. In combination with a vehicle, a motor for said vehicle, a circuit for said motor, a rheostatic controller included in said circuit, means for effecting intermittent adjustments of the rheostat arm comprising a normally inactive member and a drive member therefor, said means being under manual control for communication of the movement of said drive member to said normally inactive member and said drive member being connected to be constantly driven in common with said motor, and means for resetting the rheostat arm.

9. In combination with a vehicle having a door, and a motor on said vehicle, adjustable controlling means for said motor for varying the speed of the vehicle, and means connecting said controlling means with the door of said vehicle for resetting by movement of the latter.

10. In combination with a vehicle having a door, and a motor on said vehicle, normally inactive power controlling means on said vehicle connected with said motor, means driven in common with said vehicle for effecting adjustment of said controlling means, and means operated by movement of the door of said vehicle for returning said controlling means to normal position.

11. In combination with a vehicle having a door, and an electric motor for driving said vehicle, an electric circuit in which said motor is included, a rheostatic controller included in said electric circuit, and means connecting the arm of said rheostatic controller with the door of said vehicle for movement thereby.

12. In combination with a vehicle having a door, and an electric motor for driving said vehicle, an electric circuit in which said motor is included, a rheostatic controller included in said electric circuit, means driven in common with said motor for effecting intermittent adjustments of the arm of said rheostatic controller, and means connecting said rheostat arm with the door of said vehicle for resetting by opening movement of the latter.

In testimony whereof we affix our signatures in presence of two witnesses.

HAL E. CAWTHON.  
FRANK L. THORNTON.

Witnesses:

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