No. 726,282. PATENTED APR. 28, 1903.

W. H. GILMAN.

RACE TRACK AMUSEMENT APPARATUS.

APPLICATION FILED JULY 18, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

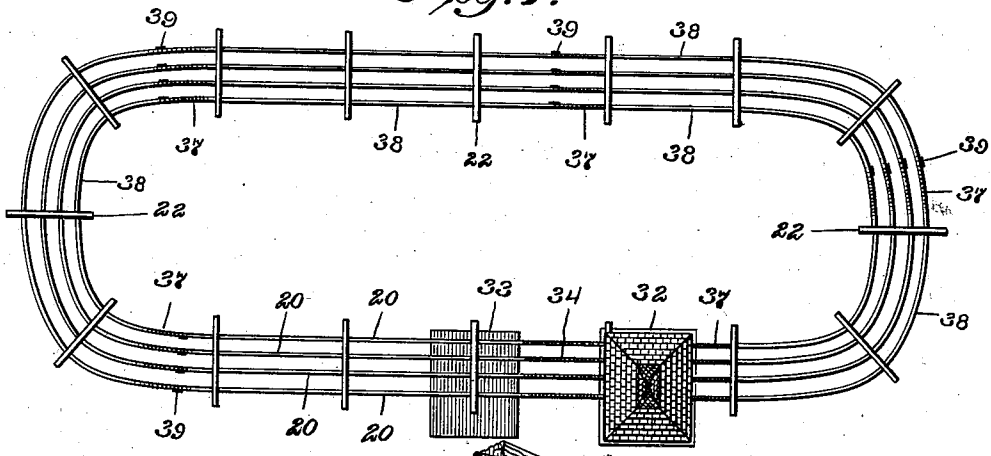


Fig. 2.

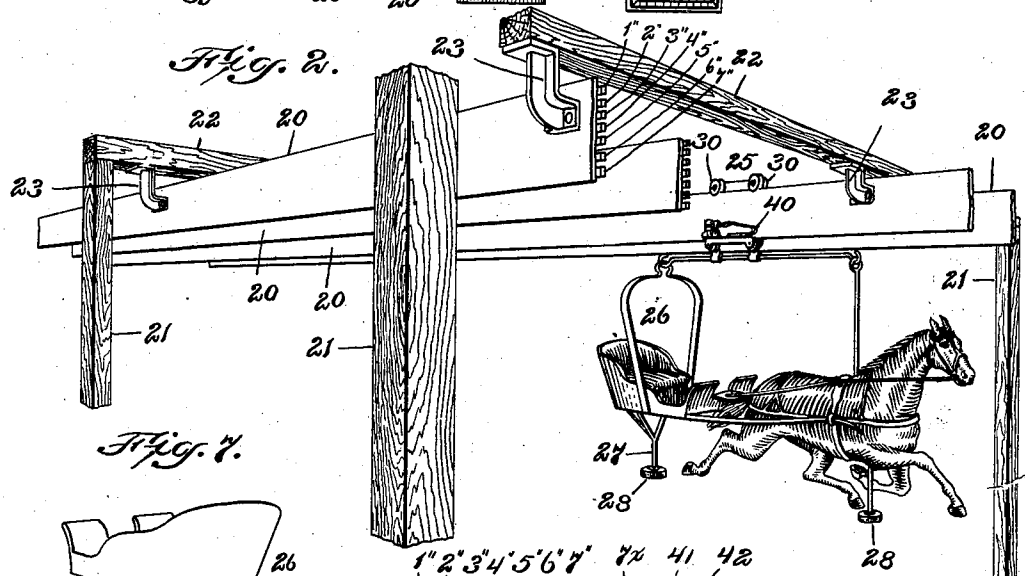


Fig. 7.

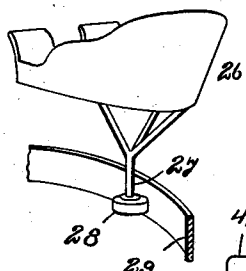
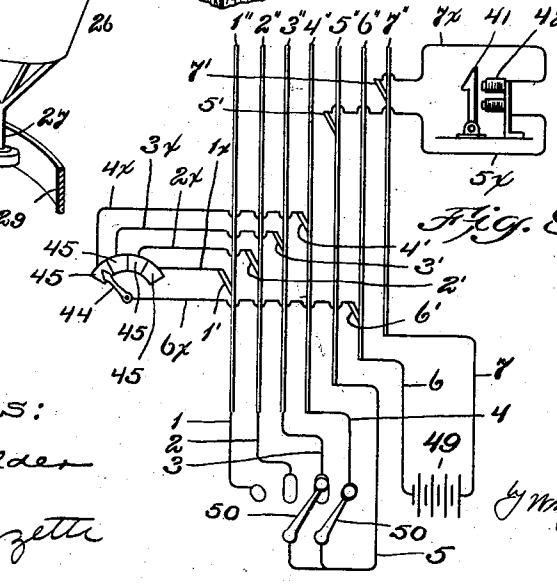


Fig. 8.



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Inventor:
W. H. Gilman
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RACE TRACK AMUSEMENT APPARATUS.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

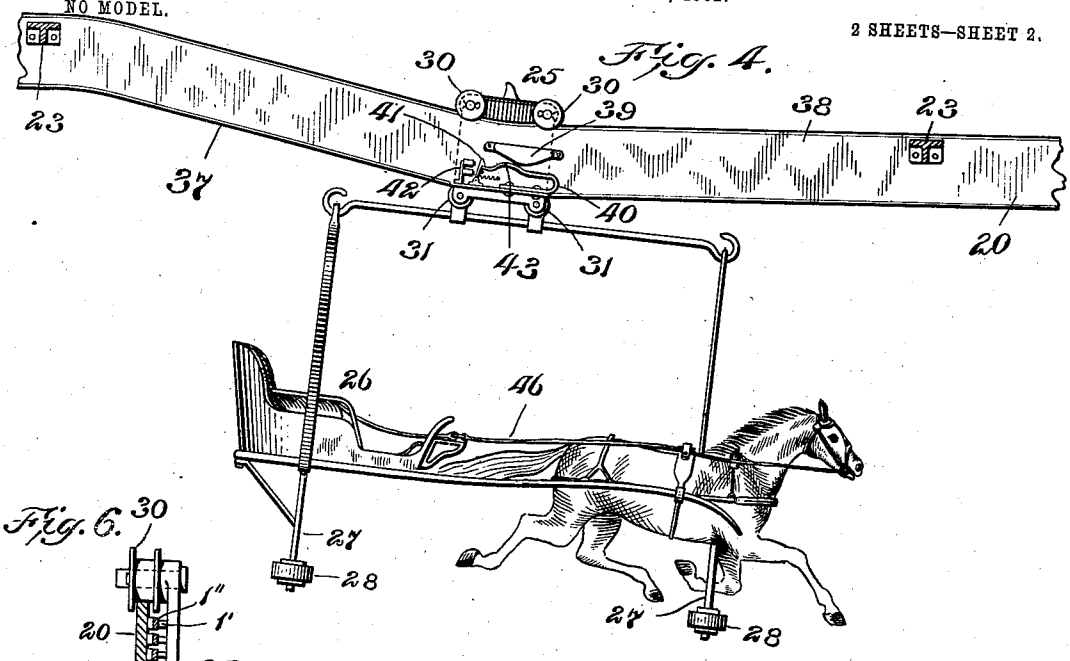


Fig. 6.

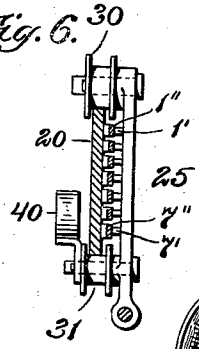


Fig. 3.

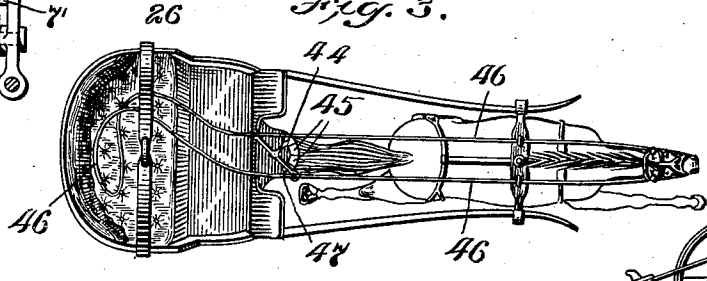
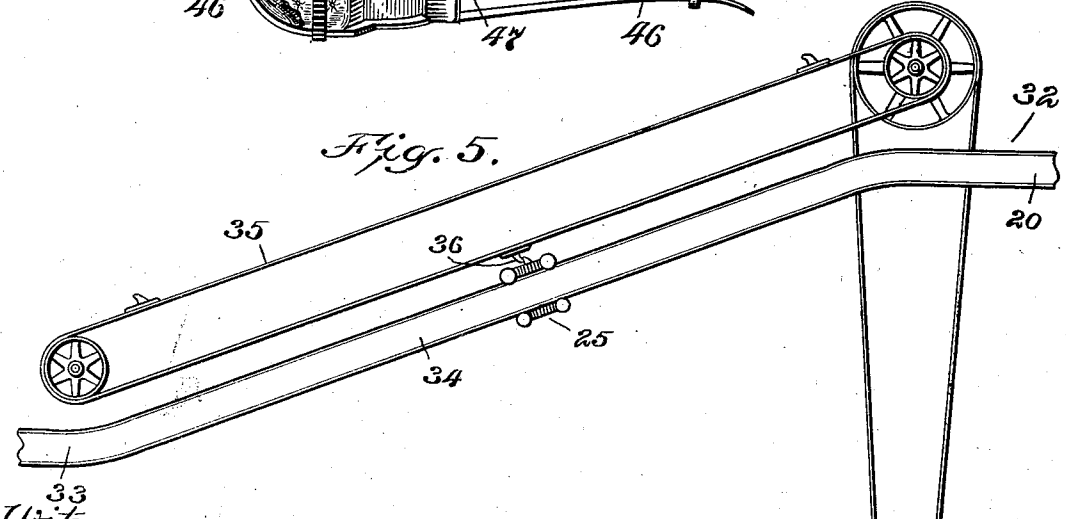


Fig. 5.



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UNITED STATES PATENT OFFICE

WILLARD H. GILMAN, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO WILLIAM H. GANNETT, OF AUGUSTA, MAINE.

RACE-TRACK AMUSEMENT APPARATUS.

SPECIFICATION forming part of Letters Patent No. 726,282, dated April 28, 1903.

Application filed July 18, 1902. Serial No. 116,033. (No model.)

To all whom it may concern:

Be it known that I, WILLARD H. GILMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Race-Track Amusement Apparatus, of which the following is a specification.

This invention relates to race courses or tracks; and it has for its object to provide a course whereby two or more racers starting together may have a series of handicaps or impediments imposed in their paths at intervals, the handicapping or non-handicapping of the racer being a matter of uncertainty with him.

The invention consists in certain novel features of construction and arrangement for carrying out the above objects and otherwise improving upon the general structure of amusement race-tracks, substantially as hereinafter described and claimed.

Of the accompanying drawings, Figure 1 represents a plan view of an amusement race-track constructed in accordance with my invention. Fig. 2 represents a detail perspective view thereof. Fig. 3 represents a plan view of one of the cars. Fig. 4 represents a side elevation showing a section of one of the tracks and the car thereon. Fig. 5 represents a side elevation showing the manner of restoring the cars from the end or lowest level of the track to the beginning or highest level thereof. Fig. 6 represents a transverse sectional view of the track with a truck thereon. Fig. 7 represents a sectional perspective view showing the means for counteracting centrifugal force at the curves of the track. Fig. 8 represents a diagrammatic view of the electrical arrangements.

The same reference characters indicate the same parts in all the figures.

In the drawings, 20 20 represent a series of endless parallel tracks, four in number in the present instance, suspended a suitable distance above the ground upon supports which, as here shown, comprise arches having uprights 21 21 and cross-beams 22 22, spanning the series of tracks, said tracks being supported by brackets 23 23 from the cross-beams. Each track 20 has one or more trucks 25 mounted upon it and from which is suspended a carriage or car 26 of any suitable form adapted to support one or more riders or passengers. At the bottom of each car is shown a pair of lower trucks 27, having rollers 28, mounted upon a vertical axis and adapted to bear against a running-board 29, placed at each curve of the course parallel to the main track 20, on the outer side thereof, and adapted to counteract the effect of centrifugal force when the car rounds the curve.

Each truck 25 is provided with running-wheels 30, resting on the upper edge of the track 20, and with safety-wheels 31, adapted to coöperate with the lower edge of the track to prevent derailing of the car. The track 20 has its beginning or starting-point 32 elevated a suitable distance above its finishing-point 33, as indicated in Fig. 5, so that the car being put in motion at the starting-point will run by gravity around the track to the finishing-point. The passengers having been unloaded at the finishing-point, the empty car is then drawn up an incline 34 to the starting-point by means of an endless continuously-running cable 35, having one or more projections 36 to engage the truck of the car.

The equipment of all of the tracks 20 is alike, and at suitable intervals at corresponding places on the several tracks I preferably provide a series of inclines 37 with intervening horizontal portions 38. When a car comes upon any one of the inclines 37, it will, if unimpeded, receive an acceleration of speed which carries it along to the next incline. The spaces intervening between the inclines may of course be themselves slightly inclined, if desired, instead of horizontal. At suitable points, preferably one at each incline 37, I mount suitable projections 39 upon the track, adapted to act as impediments or handicaps if encountered by the car. On each truck is mounted a strong spring 40, whose free end is normally held retracted by means of a catch 41, operated by an electromagnet 42, mounted on the truck. The spring 40 has a projection 43, adapted to have extended contact with the projections 39 when the free end of the spring

is released from the catch 41, but adapted to have only a slight connection with the projection 39 when said spring is engaged by its latch. The release of any spring prior to reaching one of the projections 39 will cause said spring to act as a drag against the projection 39 by its frictional contact therewith, and thus impede the progress of the car. In passing against the projection 39 the released spring is reset into engagement with its catch 41.

Means for controlling the action of the electromagnets 42 are provided as follows: On each car 26 is mounted a pivotal contact-arm 44, coöperating with a series of contacts 45 45 and controlled by the passenger of the car in a suitable manner, preferably by means of a pair of reins 46 46, attached to the ends of a cross-lever 47, connected with the contact-arm 44. Wires $1^{\times}$, $2^{\times}$, $3^{\times}$, $4^{\times}$, $5^{\times}$, $6^{\times}$, and $7^{\times}$ run from the pivot of the contact-arm 44, the several contacts 45, and the terminals of the magnet 42 to a series of contact-brushes 1′ 2′ 3′ 4′ 5′ 6′ 7′, mounted upon the truck 25 and adapted to make contact with a similar number of elongated contacts 1″ 2″ 3″ 4″ 5″ 6″ 7″, mounted upon the track 20. One series of said contacts is placed immediately in advance of each of the projections 39 and is connected by wires 1 2 3 4 5 6 7 with a suitable controlling-station, at which is located a battery or other source of current 49, as seen in Fig. 8, connected with the wires 6 7, and a pair of switches 50 50, connected with the wire 5 and adapted to make contact with any of the wires 1 2 3 4.

The operation is as follows: The cars 26 with the passengers therein are started side by side, at the high starting-point in the series of tracks, and run by gravity around to the finishing-point. All conditions being equal, the cars would supposedly finish at substantially the same time; but by the operation of the handicaps on some or all of the cars in various degrees and at different points along the tracks any of the cars may be retarded in a greater or less degree. With the electrical arrangements, as in Fig. 8, there are on each car always two active contacts 45, upon which if the arm 44 is placed the spring 40 of the car-truck will be released, and two inactive contacts 45, which produce no effect on the spring. The arrangement of the live and dead circuits controlled by the switches 50 is unknown to the passenger in the car, and he operates the arm 44 at random, without knowing what effect it will have. In Fig. 8 if the arm 44 should be on the first contact current would pass from the battery 49 through wire 6, contact 6″, brush 6′, wire $6^{\times}$, arm 44, first contact 45, wire $4^{\times}$, brush 4′, contact 4″, wire 4, right-hand switch 50, wire 5, contact 5″, brush 5′, wire $5^{\times}$, magnet 42, wire $7^{\times}$, brush 7′, contact 7″, and wire 7, back to the battery. The current can be similarly traced for the second contact, so that if the arm 44 is on either the first or second contacts the magnet 42 will be energized, releasing the spring 40 and retarding the car, while if said arm is on either the first or the second contacts no release of the spring will occur and the car will not be retarded. The arrangement of the switches 50 may be changed at will or automatically at stated intervals, and it is evident that considerable excitement is provided, owing to the uncertainty of the results of the race between the cars on the several tracks.

I claim—

1. A race-course, a traveling carrier thereon, a series of devices located at intervals along the course for impeding said carrier, and controlling means whereby said carrier may be subjected to or permitted to avoid the impedance.

2. A race-course, a traveling carrier thereon, a series of devices located at intervals along the course for impeding said carrier, and means controllable from the carrier whereby said carrier may be subjected to or permitted to avoid the impedance.

3. A race-course, a traveling carrier thereon, a series of devices located at intervals along the course for impeding said carrier, and means controllable from a point independent of the carrier whereby said carrier may be subjected to or permitted to avoid the impedance.

4. A race-course, a traveling carrier thereon, a series of devices located at intervals along the course for impeding said carrier, and means controllable jointly from the carrier and from a point independent thereof whereby said carrier may be subjected to or permitted to avoid the impedance.

5. An endless race-course having a general downward inclination from start to finish, a carrier thereon impelled by gravity, a device for impeding said carrier, and means controllable jointly from said carrier and from a point independent thereof whereby said carrier may be subjected to or permitted to avoid the impedance.

6. A race-course, a traveling carrier thereon, coöperating devices on the course and carrier for frictionally retarding the carrier, and means controllable from a point independent of said carrier for causing or preventing coöperation between said devices.

7. A race-course, a traveling carrier thereon, coöperating devices on the course and carrier for frictionally retarding the carrier, and means controllable jointly from the carrier and from a point independent thereof for causing or preventing coöperation between said devices.

8. A race-course, a traveling carrier thereon, a device for impeding the latter, a sectional controller on the carrier having im-

peding and non-impeding effects on said device, and means for exchanging the said effects between the sections of the controller.

9. A race-course, a carrier thereon, electromagnetic means for impeding the latter, a sectional controller on the carrier, a series of circuits assigned to the several sections of the controller and controlling said means, and means independent of said carrier for rendering said circuits operative or inoperative.

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

WILLARD H. GILMAN.

Witnesses:
C. F. BROWN,
E. BATCHELDER.