H. F. MAYNES.

AMUSEMENT APPARATUS.

APPLICATION FILED MAR. 9, 1920.

1,353,929. **Patented Sept. 28, 1920.**

Fig. 1,

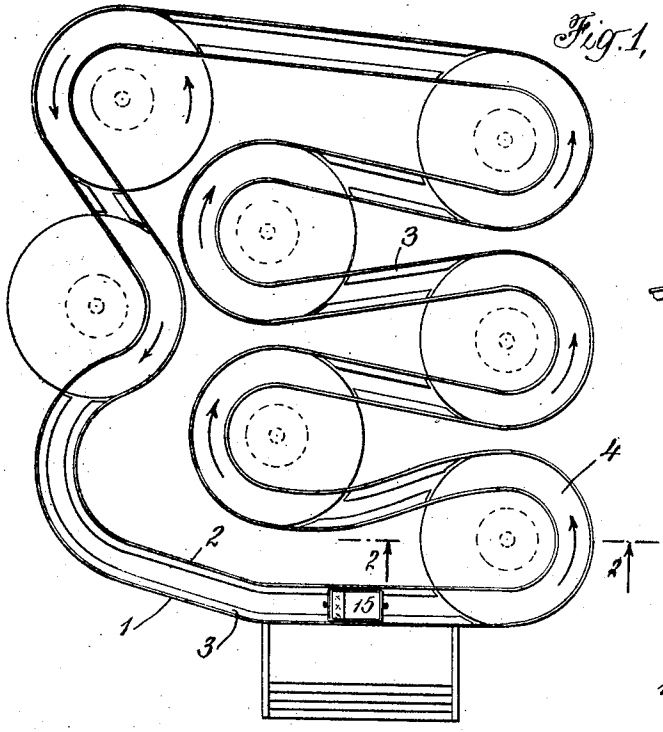


Fig. 3,

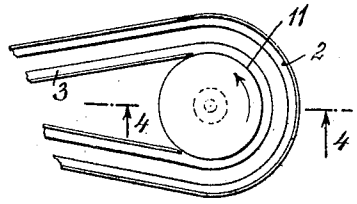


Fig. 5

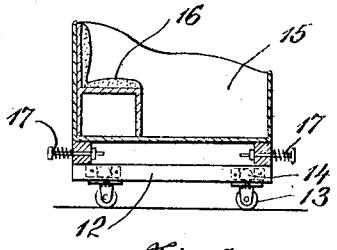


Fig. 2

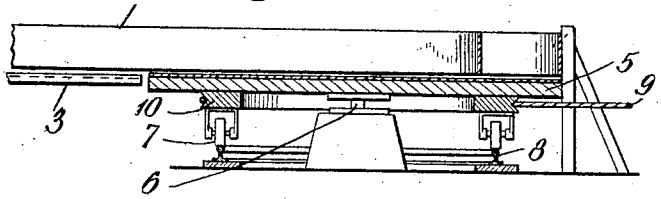


Fig. 6,

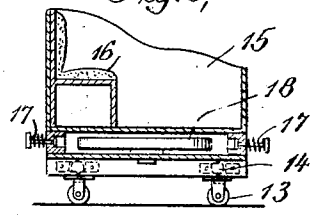


Fig. 4,

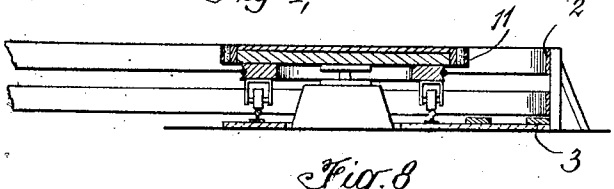


Fig. 7,

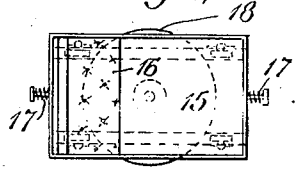
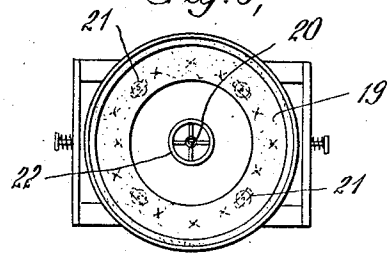


Fig. 8,



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AMUSEMENT APPARATUS.

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To all whom it may concern:

Be it known that I, HYLA FREDERICK MAYNES, a citizen of the United States, residing at Gaines, in the county of Tioga State of Pennsylvania, have invented certain new and useful Improvements in Amusement Apparatus; 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.

This invention relates to an amusement apparatus, the amusement being that afforded by a short car ride along a winding, tortuous railway, abounding in unexpected curves and at the same time subjecting the rider to sudden speed changes. It is designed for use at amusement parks and at fairs and is calculated to furnish a novel and enjoyable form of amusement.

The object of the invention is, therefore, to produce such a device and more specifically to design a novel and efficient type of projecting apparatus or that mechanism which imparts the desired motion to the passenger-carrying cars.

A further object of the invention is to design a car especially adapted to travel on this type of railway and possessing certain novel features.

Other objects will be apparent from the following description.

The nature of this invention will be more clearly comprehended from a study of the accompanying drawings, in which—

Figure 1 is a plan view of a general layout of the apparatus;

Fig. 2 is a vertical section on an enlarged scale taken on line 2—2 of Fig. 1 and showing the preferred form of projector;

Fig. 3 is a plan view of a section of the apparatus showing a modified form of projector;

Fig. 4 is a vertical section taken on line 4—4 of Fig. 3;

Fig. 5 is a vertical section of a car used in the apparatus and intended for use in connection with the projector shown in Figs. 1 and 2;

Fig. 6 is a similar view of a modified form of car adapted for use with the projector shown in Figs. 3 and 4;

Fig. 7 is a plan view of the car shown in Fig. 6; and

Fig. 8 is a plan view of a modified type of car which may be used with either type of projector; differing from the cars shown in Figs. 5, 6 and 7 merely in the arrangement of the seats.

Referring to the drawings, 1 indicates a tortuous guideway comprising vertical wall members 2 and horizontal track members 3 and having a plurality of reverse curves or turns. At the various turns of this guideway are situated projectors 4 which comprise rotary disks 5 mounted upon a central axis 6 and supported by a series of rollers 7 which travel upon a circular track 8. Power is supplied to these projectors by any suitable means, as, for example, a cable 9 surrounding an annular sheave 10 although it is perfectly feasible to operate each of these projectors by means of a separate motor. The preferred form, however, is the one illustrated, a single cable operating all of the projectors. When using the type of projector illustrated in Figs. 1 and 2, the track-way 3 is in the same plane with the surface of the projector 4, whereby a car moving along the track-way may readily move on to the surface of the projector. The outer vertical wall members 2 have the same radius of curvature as the projectors 4 at the turns. The type of projector shown in Figs. 3 and 4 is similar in many respects to that shown in Figs. 1 and 2. Its relation to the track and wall members of the guideway, however, is different. As shown in Fig. 3, the inner wall member is cut away where it becomes tangent with the projector and allows the peripheral edge 11 thereof to serve as the inner wall member of the guideway. The outer wall member encircles the projector and is positioned from the peripheral edge of the projector a distance equal to the width of the guideway.

The cars used in connection with the apparatus as shown in Fig. 1 comprise a frame 12 supported by swiveled rollers 13 adapted to run on track 3 and lateral projecting rollers 14 adapted to contact with vertical wall members 2 in a manner and for a purpose to be described later. Upon this frame 12 is mounted a car body 15 of any desired type comprising a seat or seats 16. The car is also provided with spring bumper members 17 at either end. The car shown in Fig. 6 is identical with that shown in Fig. 5 with the exception of a rotatable disk 18 positioned upon the frame 12, but lying below the floor of the car. This disk projects slightly from the sides of the car as clearly shown in Fig. 7, and is adapted to contact with the outer vertical wall member of the

guideway and the peripheral edge of the projector shown in Figs. 3 and 4. The edge of this disk is covered with some anti-friction material, preferably rubber.

In operation, the car as shown in Fig. 1 and carrying passengers, is started by gravity along track-way 3 in the direction of projector 4. This projector is rotating at a fairly rapid rate. When the car first rides upon the surface of the rotating disk the action of rollers 13 prevents the rotary motion of the projector from being immediately transmitted to the car. However, in the course of a few seconds the car picks up momentum and is eventually whirled around on the projector between the vertical wall members of the guideway and shot forward along the track-way beyond the projector. In this manner, it passes from one projector to another, changing its direction at each turn and spinning now to the right and now to the left until the entire circuit is made. The distance which these projectors are from each other may, of course, be varied as well as their number, and the speed of the car in the intervals between projectors, is, of course, dependent upon the length of this interval to a great extent. Thus, as the rapidly moving car is shot from one projector, it may slow down considerably before it reaches the next one and in this manner the speed of the car may be varied to any desired extent.

When using the type of projector shown in Figs. 3 and 4, the car does not ride upon the surface of the projector. Here the track-way 3 is below the plane of the rotating disk and the peripheral edge of this disk is on a level with the rotatable wheel 18 mounted upon the car. When the car contacts with the rapidly rotating disk, the disk 18 is caused to roll around on the outer vertical wall member of the guideway and in consequence, the car itself, is moved rapidly around the curve. When using this latter type of projector, however, the motion of the car is more jerky than when the former type is used in view of the fact that no slipping is allowed and the motion of the projector is immediately transmitted to the car through disk 18.

The guideway 1 may be laid out in one plane or there may be depressions and elevations between the various projectors.

The modified type of car shown in Fig. 8 differs from those shown in Figs. 5, 6 and 7 in that the seat consists of an annular bench 19 which is rotatably mounted on a vertical axis 20 situated in the center of frame 12. As this rotates, it is supported by means of rollers 21 which ride upon the floor of the car. A hand wheel 22 is positioned in the center of the annular seat portion and enables passengers to hold their seats securely. As the car is shot around the various curves of the apparatus, this seat is free to rotate in any direction.

This device is one which is simple in operation and construction and is calculated to afford a new and unusual form of amusement. By varying the distances between the projectors and by interposing depressions and elevations in the guideway, strange and unexpected effects may be obtained.

I claim:

1. An amusement apparatus comprising a guideway having reverse curve or turns, a car adapted to move along said guideway and projectors situated at the turns of the guideway designed to impart motion to the car and project it from turn to turn in an irregular and jerky fashion.

2. An amusement apparatus comprising a guideway having reverse curves or turns, a car adapted to move along said guideway, horizontally rotating projectors situated at the turns of said guideway designed to impart motion to the car and project it from turn to turn.

3. An amusement apparatus comprising a guideway having irregularly spaced reverse curves or turns, a car adapted to move along said guideway, horizontally rotating projectors situated at the turns of said guideway designed to impart motion to the car, the relation of the foregoing parts being such that the cars pass from one turn to the next under varying conditions of speed.

4. An amusement apparatus comprising a guideway having reverse curves or turns and having elevations and depressions between some of its turns, a car adapted to move along said guideway, horizontally rotating projectors situated at the turns of said guideway designed to impart motion to the car, the relation of the foregoing parts being such that the cars are projected from one projector to the next in an irregular and jerky fashion.

5. In an amusement apparatus, a guideway having reverse curves and turns comprising track members and vertical wall members, cars adapted to move along said guideway, circular rotating projectors situated at some of the curves of the guideway, the radius of curvature of the outer wall of the guideway being substantially the radius of the projector at that point, the upper surface of the projectors being substantially continuous with the track surface of the guideway whereby cars moving along the guideway and on to the surface of the projector have the motion of the latter imparted to them, the relation of the foregoing parts being such that the cars pass from turn to turn under varying conditions of speed.

In testimony whereof I affix my signature.

HYLA FREDERICK MAYNES.