

1,363,352.

Patented Dec. 28, 1920.

Fig. 1.

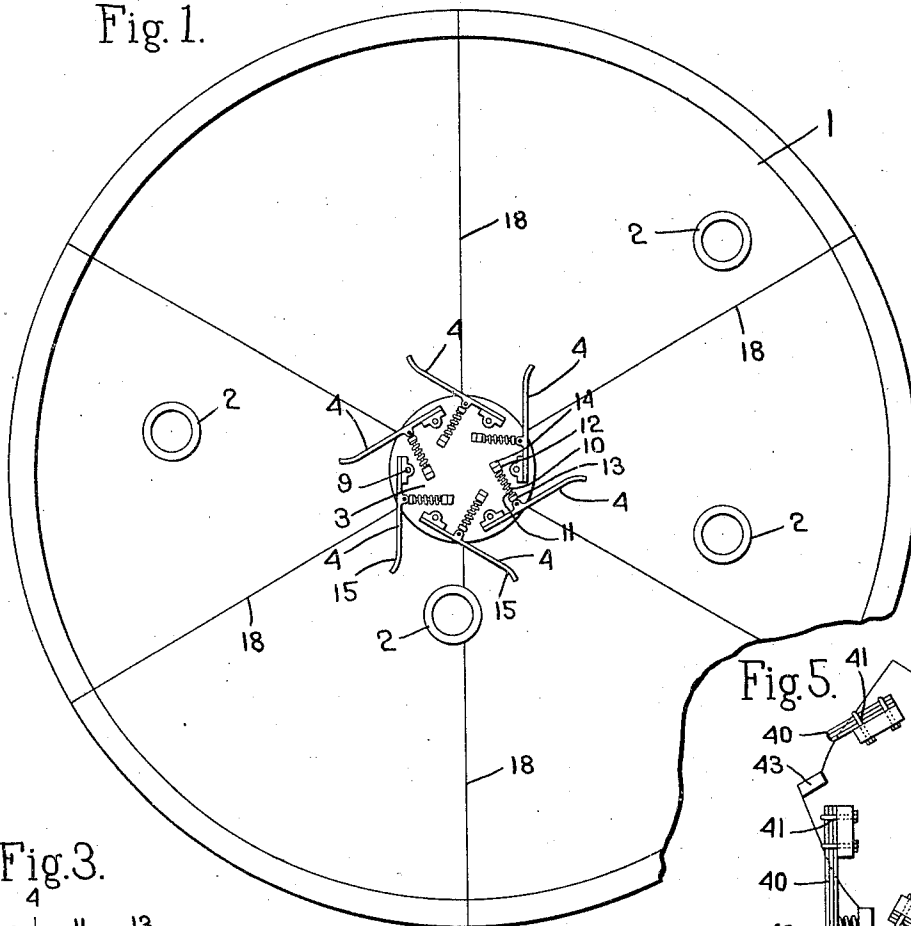


Fig. 3.

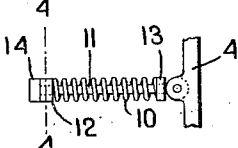


Fig. 2.

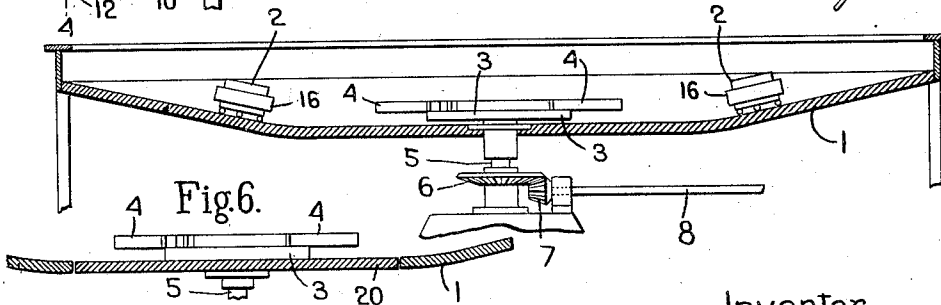


Fig. 6.

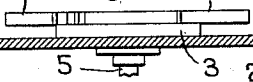


Fig. 4.

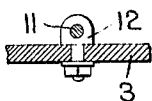
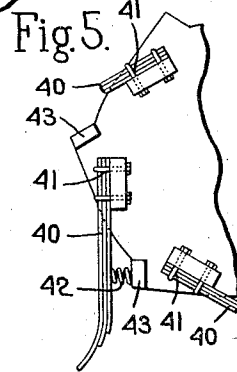


Fig. 5.



Inventor.  
Herbert N. Ridgway  
by *Heard Smith & Tennant.*  
Attys.

# UNITED STATES PATENT OFFICE.

HERBERT N. RIDGWAY, OF WINTHROP, MASSACHUSETTS.

## AMUSEMENT DEVICE.

1,363,352.

Specification of Letters Patent.

Patented Dec. 28, 1920.

Application filed October 23, 1919. Serial No. 332,746.

*To all whom it may concern:*

Be it known that I, HERBERT N. RIDGWAY, a citizen of the United States, residing at Winthrop, county of Suffolk, State of Massachusetts, have invented an Improvement in Amusement Devices, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to amusement devices of the type shown in my Patent No. 1,279,911, dated September 24, 1918, and which comprise a stationary platform, a plurality of cars adapted to travel freely over said platform in any direction, and means at the center of the stationary platform to project the cars over the stationary platform.

The present invention relates particularly to the car-projecting means and has for its object to provide a novel device for thus projecting the cars which comprises a rotatable member having one or more yielding car-propelling elements mounted thereon and adapted to engage the sides of the cars and thereby throw or project them over the stationary platform.

In the preferred embodiment of my invention I propose to make the car-propelling elements in the form of cushioned blades mounted on said rotatable member and extending beyond the periphery thereof so that as the rotatable member rotates, the projecting ends of the blades will engage the cars and throw them outwardly.

In order to give an understanding of my invention, I have illustrated in the drawings a selected embodiment thereof which will now be described, after which the novel features will be pointed out in the appended claims.

Figure 1 is a plan view of an amusement device embodying my invention;

Fig. 2 is a vertical central section taken through Fig. 1;

Fig. 3 is an enlarged detail view of the cushioning device;

Fig. 4 is a section on the line 4—4, Fig. 3;

Fig. 5 shows a different embodiment of the invention;

Fig. 6 also shows a different embodiment of the invention.

The stationary platform over which the cars are projected is indicated generally at 1 and this will preferably be made of circu-

lar shape and constructed so that the central portion thereof is lower than the peripheral portion whereby said platform inclines downwardly from the periphery toward the center. The cars which are propelled over the platform are indicated generally at 2, and these may be of any suitable construction adapted to travel in any direction on the platform 1. Each car will preferably be circular in shape and of a size to seat several passengers, all as illustrated and described in my said patent.

Situated at the low point of the stationary platform 1 is my improved car-projecting means. The device herein illustrated comprises a rotatable head or member 3 situated above the platform 1 and supporting a plurality of yielding car-propelling blades or arms 4. The head 3 is shown as supported on the upper end of a vertical shaft 5 which extends through the platform 1 and which may be driven by any suitable means. Said shaft is shown as having a bevel gear 6 thereon meshing with a bevel gear 7 on a shaft 8 which may be connected to and driven from any suitable source of power.

As stated above, the car-propelling blades 4 are yieldingly sustained on the head 3, and I may accomplish this by pivoting each blade at its inner end to the head, as shown at 9, and providing a suitable spring which acts against each blade and tends to force it outwardly. These blades are arranged at an inclination to radial lines, as clearly shown in Fig. 1, and each blade is shown as having a rod 11 pivotally connected to the backside thereof, said rod extending loosely through a guiding block 12 which is swiveled in the head 3. Each spring 10 is shown as surrounding a rod 11 and as confined between a guiding block 12 and a head 13 at the outer end of the rod 11. The inner end of each rod 11 is provided with a head 14 which coöperates with the guiding block 12 to limit the expanding movement of the spring. The springs 10 thus normally hold the blades in the position shown in Fig. 1, and when in this position the outer ends of the blades project some little distance beyond the periphery of the head 3.

In the operation of the device the cars 2 will naturally tend to gravitate toward the center of the platform 1, and as each car approaches the center of the platform, it will be engaged by one of the blades 4. The momentum of the car will be sufficient to

compress the spring 10 of said blade more or less, and the expanding movement of the spring, together with the rotative movement of said blade due to the head 3, will act to throw or project the car outwardly toward the periphery of the platform. When the projecting force with which the car is thrown outwardly has been expended, then the car will gravitate back toward the center of the platform again and will again be thrown outwardly. The outward movement of each car is partly due to the expanding action of the spring 10 and partly due to the rotative movement of the blade.

I propose to make the springs 10 of considerable length so that when a car gravitating toward the center strikes any blade, said blade will have a considerable yielding movement, thus cushioning the gravitating movement of the car. As soon as the car has been brought to rest, the expanding movement of the spring tends to move the car outwardly, and this action of the spring is augmented by the rotative motion of the blade with which the car is in engagement.

I may if desired make the outer ends 15 of the blades curved slightly so that they will have a tendency to throw the cars outwardly in a forward direction. Where there are a plurality of cars in use at the same time, said cars will, of course, be thrown in different directions and will bump into each other more or less, thus adding to the exhilaration, pleasure and excitement which the passengers receive during their ride in the car.

The springs 10 shown in Figs. 1 and 3 illustrate one form of cushioning means for cushioning the backward movement of the blades 4, but the invention is not limited to springs for this purpose as any suitable cushioning means may be used which will permit the blades to move backwardly with a cushioning movement when they are struck by a car. In the construction shown in Figs. 1 to 4 the cushioning movement of the blades is due to the spring or other cushion devices acting against the rear sides of the blades. This cushioning movement of the blades, however, may be provided for by making the blades so that they themselves will yield. A construction of this sort is shown in Fig. 5 wherein the blades indicated at 40 are made of some suitable spring material so that they will give when brought into engagement with a car. In this embodiment of the invention the spring blades may be anchored fixedly at their inner ends to the rotatable member 3, as shown at 41, and the yielding movement of the blades will be derived from the yielding or resilient quality thereof. If desired, each spring blade 40 may be provided with a buffer spring 42 interposed between the spring and an abutment 43, said spring and

abutment serving to limit the backward yielding movement of the blade.

It will be noted that the propelling blades are situated above the platform 1 and, therefore, engage the sides of the car. Each car is made with a yielding bumper 16 surrounding the latter, as shown in my above-mentioned patent, and the blades 4 will preferably be placed at such a height above the platform 1 that they will engage and act on the bumpers 16 of the car.

The construction herein illustrated is well adapted for a portable amusement device. The stationary platform 1 may be made in sections, as indicated by the radial lines 18 in Fig. 1, said sections being detachably secured together in any suitable way. With this construction the device can be readily taken down and shipped from place to place and can be as readily set up again.

In the construction shown in Figs. 1 and 2 the inclined platform is stationary throughout its entire extent, and the outward movement of the cars is derived solely from the rotatable member 3 with its attached blades. I may if desired make the central portion of the platform rotatable as in my above-mentioned patent, and as shown in Fig. 6 wherein the central rotatable portion of the platform is indicated at 20. Where this construction is employed, the cars which return to the center of the platform by gravity will be acted upon partly by the rotatable platform 20 and partly by the blades 4 or 40, and the car will derive its outward movement partly by the centrifugal action due to the rotation of the rotatable platform 20 and partly by the yielding, rotative movement of the blades 4 or 40.

I claim:

1. In an amusement device, the combination with a stationary platform, of a car adapted to travel on said platform in any direction, and a yieldingly-mounted car-propelling member adapted to project said car over said stationary platform, the latter extending beyond the car-propelling member whereby when the car is acted on by said member it will be projected beyond the reach of said member.

2. In an amusement device, the combination with a stationary platform, of a car adapted to travel over said platform in any direction, and a yieldingly-mounted car-propelling member localized at the center of the stationary platform and adapted to project said car over said platform, the latter extending beyond the car-propelling member.

3. In an amusement device, the combination with a stationary inclined platform, of a car adapted to travel over said platform in any direction, a yieldingly-mounted car-propelling member at a low point of said

platform, and means to give said member a car-propelling movement, said platform extending beyond the car-propelling member whereby when a car gravitates to said low point of the platform it will be engaged by the car-propelling member and will be projected toward a high portion of the platform and out of reach of said member.

4. In an amusement device, the combination with a stationary platform, the central portion of which is at a lower level than the periphery thereof, of a car adapted to travel over said platform in any direction, and a yielding-mounted car-propelling member localized at the center of the platform to project said car toward the periphery, said platform extending beyond the reach of the car-propelling member.

5. In an amusement device, the combination with a stationary platform, the central portion of which is lower than the periphery thereof, of a car adapted to travel over said platform, a rotatable member situated at the center of said platform, and a plurality of blades yieldingly sustained by said rotatable member and adapted to engage a car which gravitates toward the center of the platform and project it outwardly, said platform extending beyond the rotatable member on all sides whereby the projected car may be thrown beyond and out of reach thereof.

6. In an amusement device, the combination with a stationary platform, the central portion of which is at a lower level than the peripheral portion, of cars adapted to travel over said platform, rotatable means situated above the level of the low point of the stationary platform and adapted to engage the sides of the cars as they gravitate toward said low point and project the cars outwardly, said platform extending beyond the rotatable member on all sides whereby the projected cars may be thrown beyond and out of reach thereof.

7. In an amusement device, the combina-

tion with a stationary inclined platform, the central portion of which is at a lower level than the peripheral portion, of a car adapted to travel over said platform, and yielding means situated above the level of the low point of the platform and adapted to engage the sides of the cars as they gravitate toward said low point and project said cars outwardly, said platform extending beyond said yielding means.

8. In an amusement device, the combination with a stationary platform, of a car adapted to travel on said platform in any direction, and a yielding car-propelling member adapted to project said car over said stationary platform, the latter extending beyond said member.

9. In an amusement device, the combination with a stationary platform, the central portion of which is lower than the periphery thereof, of a car adapted to travel over said platform, a rotatable member situated at the center of said platform, and yielding blades carried by said rotatable member and adapted to engage the car as it gravitates to the low portion of the platform and project said car outwardly, said platform extending beyond the blades whereby a car so projected will be thrown beyond the reach of the blades.

10. In an amusement device, the combination with a stationary inclined platform, of a rotatable platform at the center thereof onto which the cars gravitate from the stationary inclined platform, and a plurality of rotating yielding blades associated with said rotatable platform and arranged to act against the sides of the cars whereby the cars will be projected outwardly partly by the centrifugal action developed from the rotatable platform and partly by the action of the rotating yielding blades.

In testimony whereof, I have signed my name to this specification.

HERBERT N. RIDGWAY.