H. N. RIDGWAY.

AMUSEMENT APPARATUS.

APPLICATION FILED NOV. 11, 1919.

1,341,220.

Patented May 25, 1920.

Fig.1.

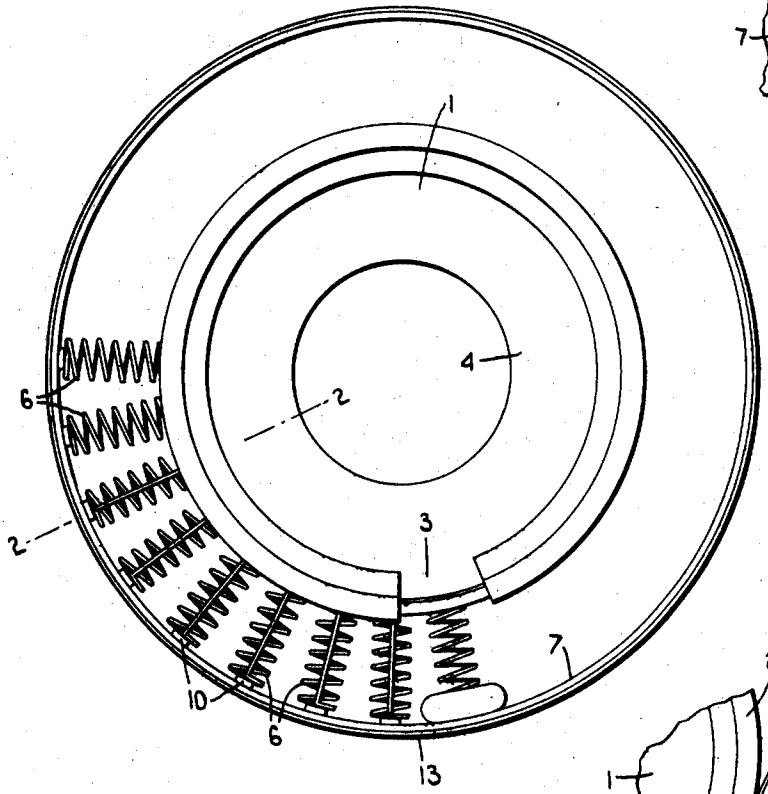


Fig.4.

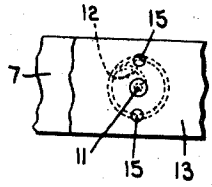


Fig.5.

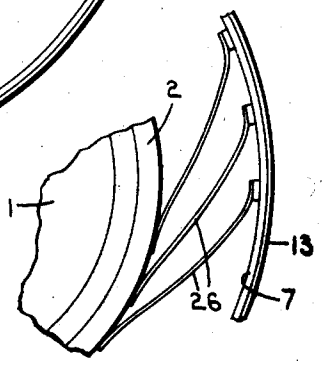


Fig.2.

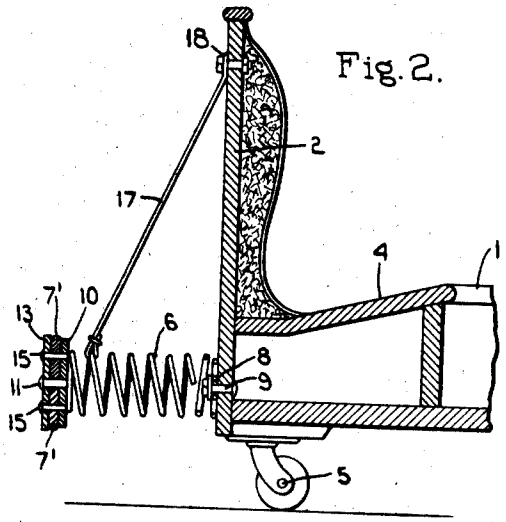
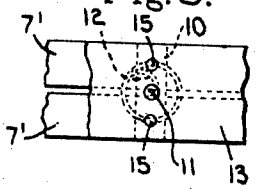


Fig.3.



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UNITED STATES PATENT OFFICE.

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AMUSEMENT APPARATUS.

1,341,220. Specification of Letters Patent. Patented May 25, 1920.

Application filed November 11, 1919. Serial No. 337,352.

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 Apparatus, 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 apparatus of the type illustrated in my Patent No. 1,279,911, dated September 24, 1918, and particularly to cars for use in such devices.

The amusement device illustrated in said patent is of that type which includes a plurality of passenger-carrying cars of circular shape and adapted to travel in any direction on a platform, and means for propelling said cars in different directions on the platform. Since these cars are propelled or projected in different directions they are continually bumping into each other, and it is necessary, therefore, to provide each car with a buffer surrounding the car, on all sides so that when the various cars strike each other, the impact will be a yielding one.

The object of the present invention is to provide an improved form of buffer for cars of this type which comprises a plurality of springs situated exterior to the car and which are so connected that when the car receives an impact all of the springs will be brought into play to provide a cushioned resistance to the impact.

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

In the drawings, Figure 1 is a plan view of a car embodying my invention;

Fig. 2 is an enlarged section on the line 2—2, Fig. 1;

Fig. 3 is a side elevation of a portion of the buffer;

Fig. 4 is a similar view showing a different construction;

Fig. 5 is a fragmentary view showing a slightly different construction from that shown in Fig. 1.

Inasmuch as the present invention relates simply to the buffer device for the car, I have not deemed it necessary to disclose an entire amusement apparatus, but have simply indicated generally at 1 a car for an amusement device of this character. This car is circular in shape and it is provided with the exterior cylindrical wall 2 having an opening 3 therein for passengers to enter the car, and also provided with a circular seat 4 on which the passengers sit. The car is mounted on casters 5 which permit it to travel freely in any direction.

My improved buffer is of that type which comprises a plurality of springs situated exterior to the car and secured thereto. These springs may have any suitable construction and may be either coiled springs or leaf springs. In Figs. 1 and 2, I have shown the springs in the form of radially-arranged coil springs 6, and in Fig. 5 I have shown springs in the nature of leaf springs 26. The bumper device shown in Figs. 1 and 2 includes the coiled springs 6, each secured at its inner end to the car body, and means connecting the outer ends of the springs so that when the car strikes against any object all of the springs are brought into play to give a cushioned resistance to the impact. I secure this object by employing a spring metal band 7 which encircles the springs and is secured to the outer ends of each spring. This metal band not only provides a flexible connection between the ends of the springs, but also serves to transmit any impact which the car may receive to all of the springs so that they all are active in yieldingly resisting the impact.

These springs 6 may be secured to the car in any suitable way. One convenient way is to provide the inner end turn of each spring with an eye 8 which is secured to the car by means of a bolt 9. The band member 7 may be in the form of a single band of the proper width or may be in the form of two separate bands connected together. In Fig. 3 I have shown the two band sections 7′ situated one above the other and separated slightly from each other, these band sections being connected by connecting elements 10 which are in the form of plates riveted to the bands. These plates preferably will be situated at the end of each spring 6 and the springs are connected to the band element by means of bolts 11 which extend through the plates 10 and through an eye 12 formed in the outer end turn of each spring.

In Fig. 4 I have shown a construction wherein the band is a single band of the proper width, and in this case the plates 10 are not necessary as the spring can be attached directly to the band by means of the bolt 11. The band has an exterior facing 13 of rubber, leather, fabric or some suitable material which will provide a yielding wear surface, and act as a muffler to deaden the noise. This outer envelop or facing of whatever nature can be secured to the band in any suitable way as by means of rivets 15. The band 7 not only constitutes a yielding connection between the outer ends of the springs and ties them altogether, but owing to its construction it also acts to transmit the force of any impact to all of the springs so that they all are active in yieldingly resisting the impact. This is an advantage because it is not necessary to make the springs as heavy as would be the case if the impact had to be resisted entirely by one or two springs.

The springs and flexible band are held in their proper position by means of flexible suspenders 17 which are secured at their upper ends to the car, as shown at 18, and at their lower ends either to the outer ends of the springs or the flexible band. Because of their flexibility the suspenders allow the band to give and yield under impact, but are always operative in holding the springs in proper position.

In Fig. 5 I have shown a construction wherein leaf springs 26 are employed instead of the coiled springs 6. These leaf springs may have any shape or contour and may be secured to the car and the metal band in any appropriate way.

I claim:

1. In an amusement device, the combination with a car adapted to travel in any direction, of a plurality of radially-arranged coiled springs situated exterior to the car and secured at their inner ends thereto, and a flexible metallic band encircling said springs and secured to the outer end of each spring.

2. In an amusement device, the combination with a car adapted to travel in any direction, of a plurality of radially-arranged coiled springs situated exterior to the car and secured at their inner ends thereto, and means connecting the outer ends of all the springs by which the force of an impact which the car receives is transmitted to and resisted by all the springs.

3. In an amusement device, the combination with a car adapted to travel in any direction, of a resilient metal band encircling the car, but spaced therefrom, a plurality of springs interposed between said car and said band and means to retain the band and springs in operative relation to each other and to the car.

4. In an amusement device, the combination with a car adapted to travel in any direction, of a resilient metal band encircling the car, but spaced therefrom, and a plurality of springs interposed between said car and said band and secured both to the car and to the band.

5. In an amusement device, the combination with a car adapted to travel in any direction, of a plurality of springs secured to the exterior of the car and projecting outwardly therefrom, and means connecting the outer ends of all the springs by which the force of an impact which the car receives is transmitted to and resisted by all the springs.

6. In an amusement device, the combination with a car adapted to travel in any direction, of a resilient metallic band encircling the car but spaced therefrom, a plurality of springs interposed between said band and car, and a plurality of flexible suspenders for supporting the band and springs in proper position.

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

HERBERT N. RIDGWAY.