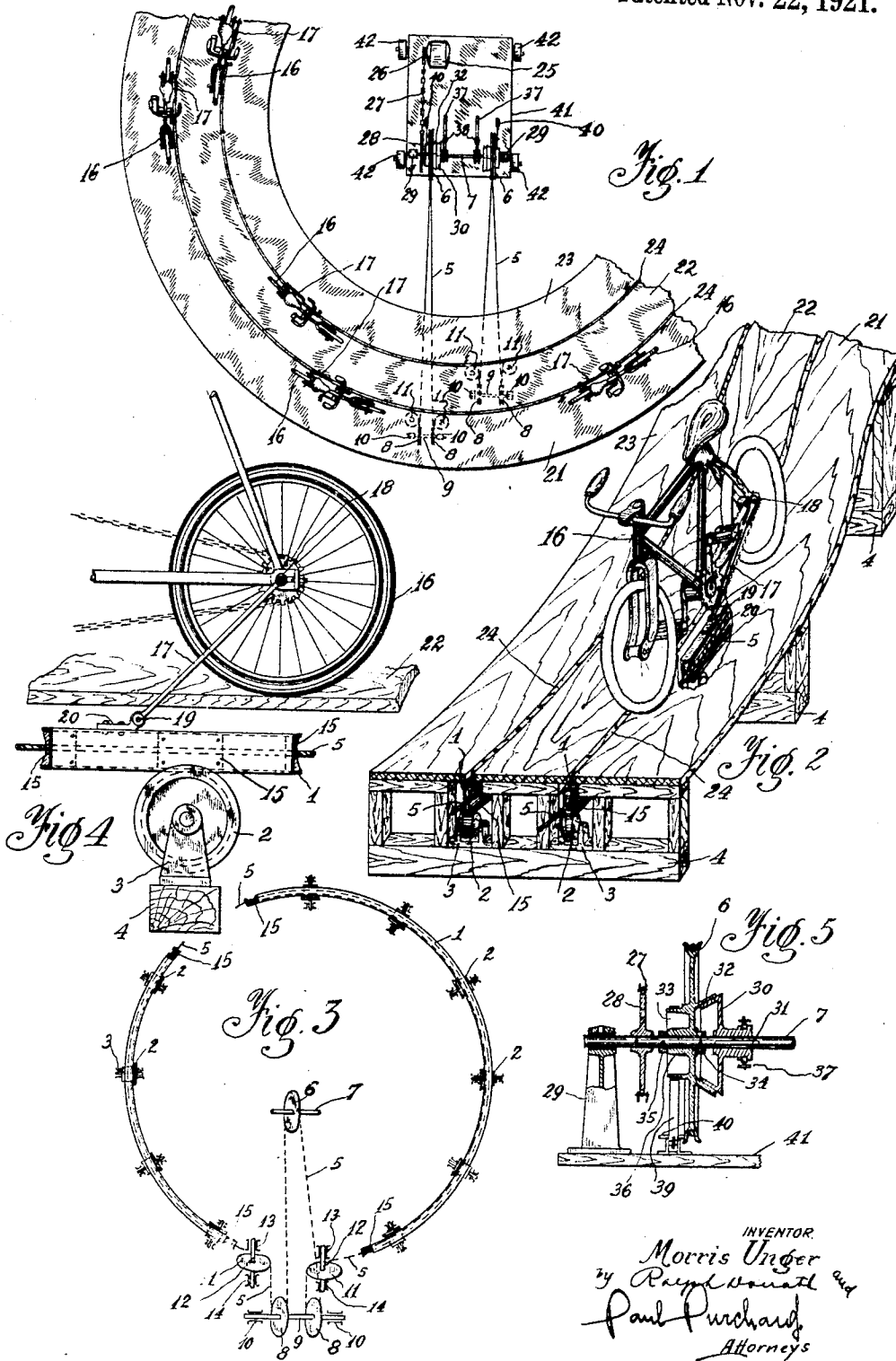


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AMUSEMENT DEVICE.  
APPLICATION FILED JULY 11, 1921.

1,397,939.

Patented Nov. 22, 1921.



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# UNITED STATES PATENT OFFICE.

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## AMUSEMENT DEVICE.

1,397,939.

Specification of Letters Patent.

Patented Nov. 22, 1921.

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*To all whom it may concern:*

Be it known that I, MORRIS UNGER, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Amusement Devices, of which the following is a specification.

This invention relates to amusement devices and more in particular to devices of this character which simulate a bicycle race.

One of the main objects of the invention is to provide an apparatus of this character in which different groups of bicycles are made to race in concentric circular tracks. A further object is to provide means for varying the speed of the various groups of bicycle riders so as to create the impression of competitive racing between said groups. Still a further object is to provide an amusement device in which the racing of the various groups may be performed either by motive power or by the personal exertion of the various members composing the competing groups. Another object is to provide a device of simple construction and operation which can be readily installed or dismantled at small cost. Further objects and features of the device will appear from the following detailed description.

In the drawings which form a part of this application:

Figure 1 is a fragmentary plan view of my amusement device arranged for two competing groups of bicycle riders.

Fig. 2 is an enlarged perspective view showing one method of building the race tracks.

Fig. 3 is a diagrammatic view illustrating the method of driving any group of bicycles.

Fig. 4 is an enlarged view showing the method of connecting the bicycles of a given group to a common driving ring.

Fig. 5 is an enlarged fragmentary view representing, in section, my preferred construction of the main driving and regulating mechanism.

Referring to the drawings, the essential parts of my amusement device consist of a plurality of circular rings 1, preferably made up of sections of a standard channel iron, suitably bent and connected to form a true ring. These rings are mounted and guided for rotation on the horizontal flanged rollers 2, carried by the supports 3, mounted

on the cross-timbers 4. Each ring 1 is rotated by means of an endless cable 5 driven by a loose pulley 6, positioned on the main shaft 7. Said cable is suitably guided over a pair of sheaves 8, keyed upon the horizontal shaft 9, running in the bearings 10, and then passes over another set of sheaves 11 keyed upon the vertical shafts 12 running in the bearings 13 and 14. The endless cable 5 engages substantially the whole periphery of the ring 1 which is preferably provided interiorly of the channel with any suitable number of wooden contact blocks 15 in order to increase the frictional adhesion of the cable on said ring and also to reduce the wear of the cable.

The bicycles 16 which are to be driven by the rings 1, are connected thereto by means of the connecting rods 17, one end of which is rockably secured on the axle 18 of the hind wheel of said bicycles; the other end of the connecting rods being held by means of the pin connection 19 to a bracket 20 mounted on the top flange of said ring. Therefore, when ring 1 is rotated by the endless cable 5, all the bicycles connected to said ring will be carried along at the same speed as the ring; due care being taken to adjust the front wheel of the bicycles to the circular path they are intended to travel.

The floor upon which the bicycles are racing will necessarily have to be made of concentric rings or tracks 21, 22 and 23 separated by the narrow slots 24 in order to allow the connecting rods 17 to pass there-through. Said tracks may either be made level or undulated, as indicated in Fig. 2, in which one method of supporting the tracks by the frame work is also suggested. It is evident that no matter whether the tracks be made level or undulating, the rings 1 must always run level, and the variation of the distance between the rings 1 and the tracks will be taken care of by the greater or lesser inclination of the rods 17.

The motive power required for driving each group of bicycles is obtained from any suitable type of motor 25 which is connected by means of the sprockets 26 and the chain drive 27 to the sprocket gear 28 mounted on shaft 7, running in bearing supports 29. The transmission of power from the shaft 7 to the loosely mounted rope sheave 6 is performed by means of the friction clutch member 30 slidably mounted on shaft 7 and

guided thereon by the flat key 31. This clutch member 30 frictionally engages the conformingly shaped circular flange 32 cast or securely mounted on the sheaves 6. On the opposite side of the latter, I also provide a circular flange 33 which is suitably machined to act as a brake drum for the sheave. Two collars 34 and 35 are also secured on the shaft 7, and on each side of the hub 36 of the sheave, to keep the latter in the desired position on the shaft. The movable part of the friction clutch is operated by means of a bifurcated lever 37 slidably fulcrumed at 38. A brake band 39, acting on the brake drum 33 is also provided to stop the rotation of the ring 1 and is preferably operated by a pedal lever 40. Since the clutch lever and the brake band construction required in my device, may be of any desired commercial type, they have not been illustrated in detail, but are diagrammatically indicated in Fig. 1.

The power plant of my device, including the main shaft mechanism, is preferably installed on a movable platform 41 mounted upon the wheels 42 so as to be easily transported.

Although in my drawings I have only shown two groups of bicycles, it will be understood that any desired number of groups may be operated by the same source of power and by the same operator; it being necessary only to provide on the main shaft 7 one more sheave mechanism, as illustrated in Fig. 5, for each additional group desired. The method of operation of my amusement device is as follows:

When the various groups of bicycles have been occupied by the public, the operator, situated on the platform 41, located substantially at the center of the race tracks, will optionally impart, to the various groups any desired speed by manipulating the friction clutch 30 and the brake bands 39. If desired, the various groups of bicycle riders may be made to race each other in competition, and through their own pedaling, by simply shifting the friction clutches 30 completely out of engagement with their sheaves 6 and allowing the latter to rotate freely upon the main shaft 7 by releasing the brakes 39.

It will be understood, of course, that the arrangement I have herein shown is merely suggestive of many that might be adopted in carrying out my invention, and I do not wish to be limited to the construction illustrated otherwise than as specified in the appended claims.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In an amusement device of the character described, a plurality of groups of bicycles; means for selectively operating each group by motive power and means for

selectively operating each of said groups independently of the other groups by the personal exertion of the occupants of said bicycles.

2. In an amusement device of the character described, the combination of a plurality of concentric rings mounted for rotation in a horizontal plane; a plurality of floors positioned above said rings and concentrically therewith and bicycles connected to said rings for travel on said floors.

3. In an amusement device of the character described, the combination of a plurality of concentric rings mounted for rotation in a horizontal plane; a plurality of floors positioned above said rings and concentrically therewith and bicycles rockably connected to said rings for vertical adjustment and travel on said floors.

4. In an amusement device of the character described, the combination of a plurality of concentric rings mounted for rotation in a horizontal plane; means for rotating said rings; a plurality of floors positioned above said rings and concentrically therewith and bicycles rockably connected to said rings for vertical adjustment and travel on said floors.

5. In an amusement device of the character described, the combination of a plurality of concentric rings mounted for rotation in a horizontal plane; means for severally rotating said rings at variable speeds from a common source of power; a plurality of floors positioned above said rings and concentrically therewith and bicycles connected to said rings for travel on said floors.

6. In an amusement device of the character described, the combination of a plurality of concentric rings mounted for rotation in a horizontal plane; a plurality of floors positioned above said rings and concentrically therewith; bicycles rockably connected to said rings for vertical adjustment and travel on said floors; means for severally rotating said rings at variable speeds from a common source of power; means for selectively and severally rotating said rings by the personal exertion of the occupants of said bicycles.

7. In an amusement device of the character described, the combination of a plurality of concentric rings of channel shaped cross-section; a plurality of rollers supporting said rings; a plurality of floors positioned above said rings and concentrically therewith; bicycles connected to said rings; an endless cable engaging each of said rings and driving the same; means for guiding said cables and means for operating them severally from a common source of power.

8. In an amusement device of the character described, the combination of a plurality of concentric rings of channel shaped cross-section; a plurality of rollers support-

ing said rings; a plurality of floors positioned above said rings and concentrically therewith; bicycles connected to said rings; an endless cable engaging each of said rings  
5 and driving the same; means for guiding said cables; means for operating them severally from a common source of power and means for operating each of said rings independently of said source of power by the personal exertion of the occupants of said 10 bicycles.

In testimony whereof I affix my signature.

MORRIS UNGER.