

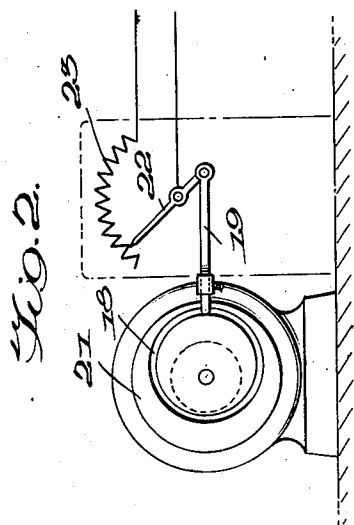
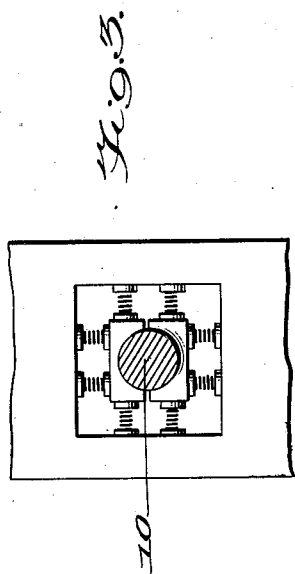
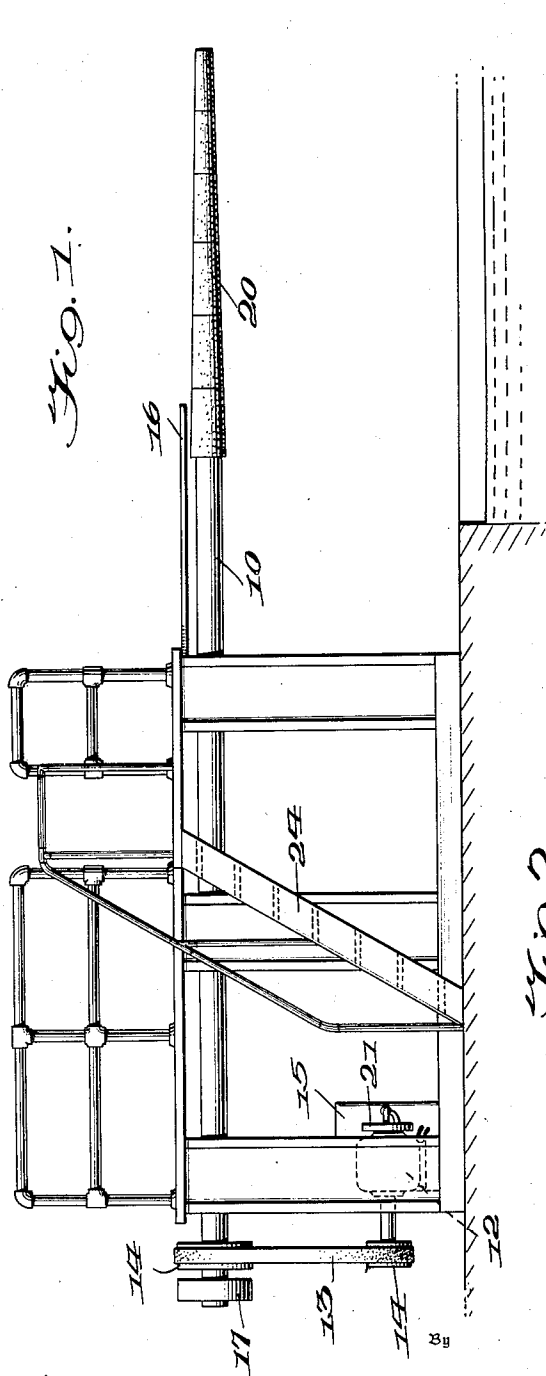
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AMUSEMENT AND EXERCISING DEVICE

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AMUSEMENT AND EXERCISING DEVICE

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12 Claims. (Cl. 272-60)

This invention relates to recreational devices of a type designed to test and develop the physical agility and skill of the user.

In its broad concept the invention comprehends apparatus having a moving or movable element designed to be trod upon by a person using the device. The movement or movability of the device is such that walking or running, or even standing on the apparatus entails the exercise of considerable dexterity and a good sense of balance; the degree of proficiency required to successfully use the device depending in a great part on the nature and speed of movement which is imparted to the apparatus, either by the operator himself or some associated means.

The specific embodiment of the invention shown in the drawing and described herein includes a rotating, horizontal substantially cylindrical member disposed in the neighborhood of the surface of a swimming pool. The device may of course be used with some other cushioning or safety device in lieu of a swimming pool, such as a net or mat, or even, if the skill of the user makes it permissible, with no safety device beneath the rotating cylinder.

Means have been shown for positively driving the rotating member, either constantly or at a variable speed, but the apparatus is also intended for use without a driving mechanism, in which case the rotary member is freely movable on its axis and is actuated by the user himself by movement of his feet thereon as if he were running in a direction transverse to the axis of the cylinder.

The novel features which I believe to be characteristic of my invention are set forth with particularity in the appended claims. My invention itself, both as to its organization and method of operation, will best be understood by reference to the following description taken in connection with the accompanying drawing in which,

Figure 1 is a side elevation of an apparatus constructed in accordance with my invention,

Figure 2 is a view of one type of device for automatically varying the speed of rotation of the driving motor, and

Figure 3 is a view of a resiliently mounted bearing means for the rotatable treading member.

In the embodiment of my invention shown in Figure 1, a substantially cylindrical rotatable member 10 whose axis is disposed substantially horizontally is shown driven by a motor 12, said motor being coupled to the member 10 in driv-

ing relationship by means of a belt 13 and pulleys 14. The member 10 rests in bearings which are mounted in the framework of the supporting structure, said structure serving as a means of ready access to the treading surface of the rotating member 10 by users of the device, as well as serving as a housing for a portion of the rotating member and its associated machinery necessary to drive same. Associated with the motor is a device 15 for automatically varying the speed of rotation of the motor. This device is shown more in detail in Figure 2 and will be hereinafter described. The top of the housing serves as a stand on which a single user or a number may gather to approach the rotatable treadle. The approach 16 comprises a horizontal plane surface disposed immediately above the rotatable tread member.

The member 10 presents a treading surface upon which the user stands or walks with the object in view of balancing himself in order to keep from being thrown or slipping from the member. This member which is substantially cylindrical in form, may be comparatively small in diameter or fairly large in diameter depending upon the comparative skill of the persons by whom it is to be used. It would naturally be made larger for children than for adults. The surface of the member should be covered wholly or in part with a sponge-like or shock absorbing material 20, which obviates the possibility of injury when the user falls or slips.

While member 10 is shown coupled to driving means, it is clear that it will also entail skill and agility to use the device even though the member be so mounted as to be freely rotatable in its bearings and subject to the turning effect resulting from the user treading as though walking transversely of the axis of the member. For this reason I have shown means to uncouple the driving motor, which comprises an idler pulley 17 mounted immediately adjacent one of the driving pulleys 15 and serving to hold the belts 13 in position to be slipped back in driving relationship to the member 10 at will.

It is obvious that it will entail the exercise of a sense of balance to walk along the longitudinal axis of the member 10 whether it is being rotated by means of the driving motor or is free to rotate in its bearings. Some means are desirable to determine the comparative skill of exercisers. This skill is naturally greater in those who traverse the greatest distance without falling. For this purpose the periphery of the member 10 may be marked off longitudinally

in appropriate fashion to furnish a score which represents the distance traversed, comparative scores representing comparative skill.

Again, it will entail the use of more skill to remain on the surface of the member 10 if the velocity of the member is not constant. Figure 2 discloses one method of varying the peripheral velocity of member 10. This is accomplished by means of varying the speed of the driving motor by varying its field excitation in a predetermined manner. One means of so doing is illustrated. The driving shaft of the motor has attached thereto a disk-shaped member 21 in one of whose faces is cut a cam slot 18. An arm 19 is provided with a follower for engaging the cam slot 18. This arm actuates a pivoted member 22 which wipes across the face of a resistance 23, the resistance being connected in the field of the driving motor. Thus the speed of the motor and the member 10 may be governed automatically by the variation of the field excitation of the motor in a predetermined manner. By appropriately shaping the slot in member 21 we may get any desired velocity curve. The specific means of automatically varying the speed of the member 10 is merely for example and of course any suitable speed control mechanism may be employed.

As a further test of the skill of the user, the member 10 may be mounted in bearing members attached to the housing in such a manner that the bearing itself is not rigidly fixed, but is resiliently mounted in such fashion that any change in inertia of the member 1 will cause the bearing to change position either laterally or vertically thus causing a lightly or highly damped motion of member 10 in a lateral or vertical direction. Figure 3 illustrates such a bearing. Again, the specific resilient mounting shown is by way of example only.

The action of the device may be summed up as follows: The user advances to the top of the housing by means of a ladder-like structure 24, he walks out upon the approach member 16 from which he may easily step down onto the periphery of the rotatable member, the object being either to see how long he can keep his balance on the treading surface before falling from the member or to see how far along its surface he can go without slipping or falling. Of course the driving means may be disassociated with the tread member and several persons may try to unbalance each other by rotating the member by their treading action.

I do not wish to be limited to the exact form hereinbefore described, as there are many modifications which might be made without departing from the spirit of my invention as defined in the appended claims.

What I claim is:

1. An amusement or exercising device comprising a rotatable member presenting a treading surface to the user, and means for rotating said member at a predetermined varying velocity.
2. An amusement or exercising device comprising a rotatable member presenting a treading surface to the user, and means for rotating said member at a continuously varying velocity.
3. An amusement or exercising device comprising a substantially cylindrical member presenting a treading surface on the periphery thereof, said member having its axis disposed substantially horizontally, and means for rotating

said member at a predeterminable varying velocity.

4. An amusement or exercising device comprising a substantially cylindrical member presenting a treading surface to the user on its exterior face, said member having its axis disposed substantially horizontally, and means for rotating said member at a continuously varying velocity.

5. A recreational device including a substantially cylindrical member disposed with its axis substantially horizontal and presenting a treading surface to the user on its external face, motor means for rotating said member, and means associated with the driving shaft of said motor for effecting the rotation of the member at a predeterminable varying velocity.

6. A recreational device including a rotatable member presenting a treading surface to a user, motor means for rotating said member and means associated with the driving shaft of said motor for effecting the rotation of the member at a predeterminable varying velocity.

7. A recreational or exercising device comprising a rotatable member presenting a treading surface to a user, electric motor means for rotating said member and means mounted on the shaft of the motor for effecting the variation of the voltage supplied to said motor in a predetermined manner.

8. A recreational or exercising device comprising a substantially cylindrical member presenting a treading surface to a user upon its exterior, said member having its axis disposed substantially horizontally, electric motor means for rotating said member and means mounted on the shaft of the motor for effecting the variation of the voltage supplied to said motor in a predetermined manner.

9. A recreational or exercising device comprising a rotatable member presenting a treading surface to a user, electric motor means for rotating said member, a disc mounted on the shaft of the motor having a cam slot cut in one of its faces, a rider adapted to follow said slot, said rider controlling means to vary the voltage supplied to the motor.

10. A recreational or exercising device comprising a substantially cylindrical member with its axis disposed substantially horizontally, said member presenting a treading surface upon its exterior, electric motor means for rotating said member, a disc mounted in operative relationship to the shaft of the motor to be rotated thereby, a slot cut in a face of the disc, said slot curving in such a manner as to be re-entrant upon itself, a rider adapted to follow said slot, said rider being operatively connected to means for varying the voltage supplied to the driving motor.

11. A recreational or exercising device including a rotatable member presenting a treading surface to a user, motor means for rotating said member, a disc mounted in operative relationship to the motor shaft for rotating the disc, said disc having a slot cut in its face, said slot curving in such a manner as to be re-entrant, a rider adapted to follow said slot, a pivoted arm attached to the rider, the other end of the arm controlling the moving member of a potentiometer, said potentiometer serving to control the voltage supplied the driving motor.

12. A recreational or exercising device including a substantially cylindrical member present-

ing a treading surface upon its exterior and disposed with its axis substantially horizontally, electric motor means for rotating said member, a disc mounted in operative relationship to the motor shaft and rotated thereby, said disc having a slot cut upon its face, the slot curving in such a manner as to be re-entrant, a rider adapted to follow said slot, a pivoted arm attached to said rider, the end of the arm opposite the rider controlling the moving member of a potentiometer, said potentiometer serving to control the voltage supplied the driving motor.

5

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