June 25, 1968 M. BLAU 3,389,494

RECREATIONAL DEVICE IN THE FORM OF A SKILL WHEEL

Filed Oct. 21, 1965

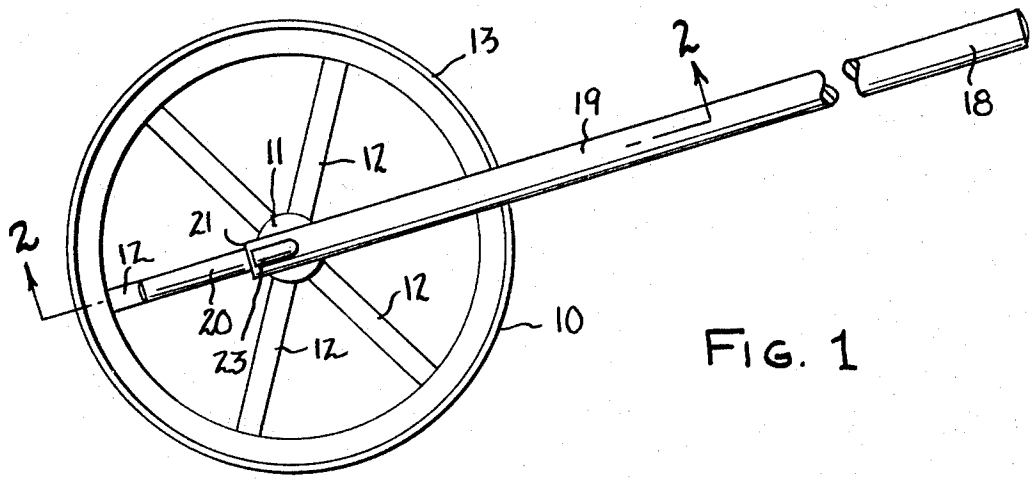


FIG. 1

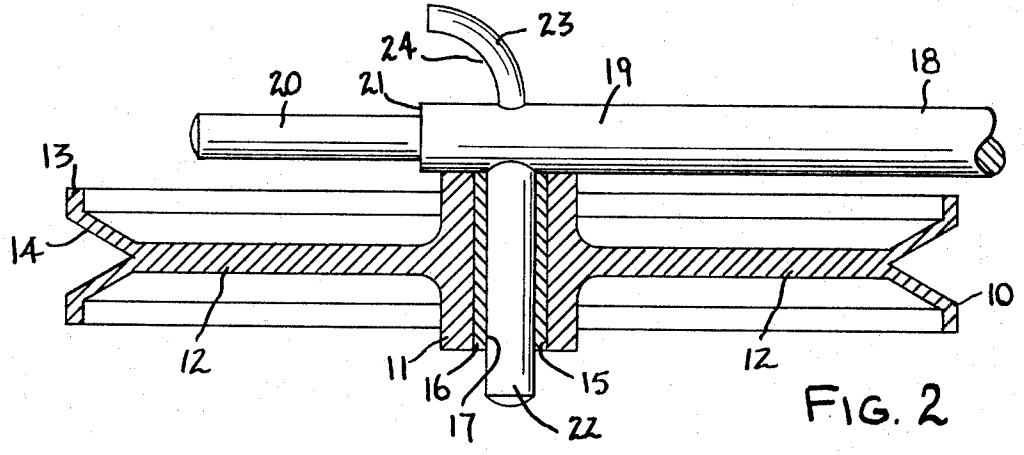


FIG. 2

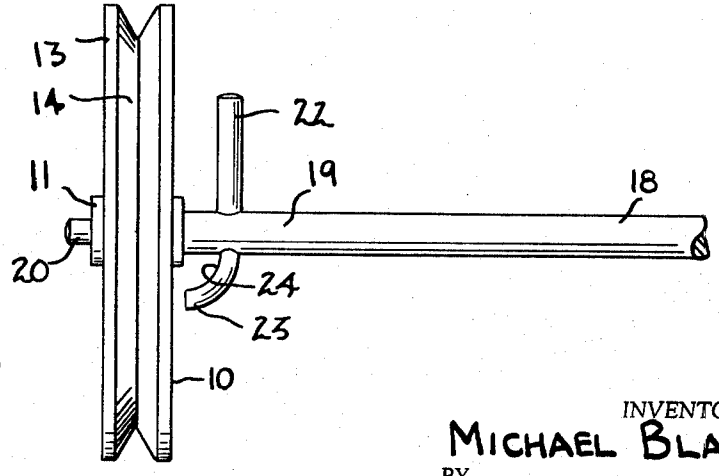


FIG. 3

INVENTOR.
MICHAEL BLAU
BY Isler & Ornstein
ATTORNEYS.

United States Patent Office 3,389,494 Patented June 25, 1968

3,389,494

RECREATIONAL DEVICE IN THE FORM OF A SKILL WHEEL

Michael Blau, 3383 Colwyn Road, Shaker Heights, Ohio 44120

Filed Oct. 21, 1965, Ser. No. 499,286
1 Claim. (Cl. 46—220)

ABSTRACT OF THE DISCLOSURE

A recreational device for testing skills in the manipulation of a wheel. The device includes the combination of a spoked wheel having an annular circumferential groove in the rim thereof and a manipulating stick having a first and second axle thereon for selective journalling in the hub of the wheel. One of such axles is a longitudinal extension of the manipulating stick and the other extends in a direction normal to the first. The stick also includes a hook which is selectively engageable with the rim or spokes of the wheel during the manipulation thereof. The stick provides a track on which the wheel can roll.

The present invention relates generally to recreational devices in the nature of games or toys and, more particularly, to a recreational device consisting of a wheel and a stick which can be utilized in various combinations to challenge the skill of the operator.

It is a primary object of my invention to provide a recreational device or skill wheel of the general character described which will have a high degree of versatility in use.

Another object of my invention is to provide a skill wheel of the general character described which, in combination with its stick, can be utilized in a myriad of games and combinations.

A further object of my invention is to provide a device of the character described which is economical to manufacture and is low in cost.

Other objects and advantages of my invention will become apparent during the course of the following description.

In the drawings, in which like reference numerals designate like parts throughout the same,

FIG. 1 is a view in elevation of a wheel and stick embodying the features of my invention.

FIG. 2 is an enlarged cross-sectional view taken as indicated on line 2—2 of FIG. 1.

FIG. 3 is a view in elevation of the wheel and stick of FIG. 1 in another assembled relationship.

Referring more particularly to the drawings, I have shown a wheel **10** provided with a central hub **11** from which radiate spokes **12** to an outer rim **13**.

The periphery of the rim **13** is generally V-shaped in cross-section so as to provide an annular recess or groove **14** on the circular periphery of the wheel **10**.

The hub **11** is provided with a transversely extending bore **15** in which may be mounted or secured a friction-reducing brushing or sleeve bearing **16** having an axial bore **17**.

It will be noted that the hub **11** is of a greater length than the width of any other portion of the wheel **10** so that the opposite extremities of the hub project beyond the planes defined by the opposite faces of the spokes **12** and the rim **13**.

A stick **18** is provided for associative use with the wheel **10**. The stick **18** has a cylindrical body **19**, which is preferably tubular, and which may be of any practical length desired. One end of the body **19** is provided with a cylindrical extension **20** of reduced diameter, thereby forming a shoulder or abutment **21**. The cylindrical extension **20** provides an axle adapted to be journalled in the

bore **17** so as to permit relative rotation between the wheel **10** and the axle **20**. The cylindrical body **19** is of greater diameter than the bore **17** so that the shoulder **21** will abut the end of the hub **11** and limit the movement of the axle **20** into the bore **17**.

The body **19** is also provided with a radial extension **22**, which preferably is affixed to the body near that end of the body which provides the shoulder **21**. The element **22** is of the same cylindrical shape and diameter as the axial extension **20** and provides a second axle adapted to be journalled in the bore **17** of the wheel **10** in the same manner as the axle **20**.

It will be understood that the movement of the radial axle **22** into the bore **17** will be limited by the abutment of the body **19** with an end of the hub **11**, as the axle **22** is disposed normal to the longitudinal axis of the body **19** and of its axle extension **20**.

A curved element or hook **23** is affixed to the body **19** in a position to lie approximately diametrically opposite to the axle **22**. The hook **23** is bent or curved in an approximate arc of 90° in a direction toward the axle **20** so as to provide a throat **24** of sufficient size to embrace a spoke **12** or the rim **13** of the wheel **10**.

The wheel and stick above-described can be made of metal, preferably a light weight metal such as aluminum or alloys thereof. However, the wheel and stick are preferably made or molded from any one of several synthetic resins which are suitable for the purpose. Whether the wheel and stick are made of metal or of synthetic resins or any other suitable material or combinations thereof, it will be understood that the use of the bushing or sleeve bearing **16** is optional and this element may be eliminated from the structure if the material of which the wheel or the axles **20** or **22** are made is of a character having a low coefficient of friction.

In order that there be a more complete understanding of the proportions of the parts of the invention, it may be well to present an example of the dimensions of the parts. The wheel may have a diameter on the order of ten inches and the bore **17** may be approximately one-half inch in diameter. The axial length of the hub **11** may be on the order of two inches and should project at least one-eighth inch to either side of the wheel beyond the plane of the spokes **12** or rim **13**. The body **19** of the stick **18** may be thirty inches long and have a diameter of three-quarters of an inch. The axle **20** and the axle **22** may each be about one inch longer than the length of the hub **11** and will, of course, have a diameter slightly smaller than that of the bore **17**. It will be understood that these dimensions are presented to illustrate the proportions of the wheel **10** and the stick **18** and are not intended to limit the invention to such dimensions.

The variety of combinations and manipulations of the skill wheel are limited only by the imagination of the operator or user of this recreational device. Some of the various ways in which the skill wheel can be manipulated and enjoyed are described below, but this descripiton does by no means exhaust the possible variety of such combinations.

When the stick is assembled to the wheel in the manner illustrated in FIG. 1, the radial axle **22** is journalled in the bore **17** of the wheel. In this combination, the wheel **10** can be set in motion by rotating it by hand; the wheel is then set upon the ground surface or floor and the rotation is continued while holding the end of the stick, with the operator remaining in a standstill position. The same combination can be utilized with the operator moving as the wheel is rotated on the floor surface.

The operator can also rotate the wheel by engagement with the floor surface and create larger or smaller circles of rotation as he stands in the center defined by the rotating wheel.

Utilizing the arrangement of FIG. 1, the wheel **10** can be set in motion on the floor by briskly pushing the handle **18**, and after the wheel has been started in its rotation, the stick **18** is manipulated to lift the wheel quickly off the floor at any angle so that it is spinning in the air. When it is so spinning, the handle is manipulated so as to quickly change the position of the wheel, such as for example turning it upside down, utilizing the skill of the operator in order to accomplish this maneuver without permitting the wheel to fall off the axle **22**.

Another manuever is accomplished by placing the free end of the stick **18** on the ground and spinning the wheel **10** while it is supported by the handle, at the same time rotating the stick **18** in an axial or orbital pattern.

Still another maneuver can be accomplished by laying the wheel **10** flat upon the floor and setting it spinning on its hub surface. While it is so spinning, the operator places the axle **22** in the bore **17** and attempts to lift the wheel off the floor while keeping it spinning.

Referring now to the arrangement illustrated in FIG. 3, the drawing shows the axle **20** disposed in the bore **17** of the wheel, so that the relationship of the wheel to the longitudinal axis of the stick **18** is now 90° removed from the position that the wheel had in the combination shown in FIG. 1. With the parts in this relationship the free end of the stick can be set upon the floor and the wheel supported in space and set spinning while the stick is held stationary. The same maneuver can be modified by loosely holding the stick as the wheel spins, so that the stick itself will have a tendency to have axial rotation in response to the spinning of the wheel.

With the wheel journalled on the axle **20**, the wheel is placed on the ground at a slight angle and the stick is maneuvered to set the wheel in motion. Thereafter, when the wheel is spinning with sufficient velocity, it is permitted to detach from the axle **20** and the operator attempts to catch it as it rolls, utilizing the hook **24** or the combination of the hook **24** and axle **20** to engage and arrest the motion of the wheel.

In a manner similar to that accomplished when the axle **22** was journalled in the wheel **10**, the wheel may be journalled on the axle **20** and set in motion by means of the operator wheeling it around himself in smaller or larger circles as the rim of the wheel engages the ground. Similarly, the free end of the stick can be placed to rest upon the floor surface at the same time that the wheel itself rests upon the floor surface on its rim **13**. By manipulating the stick **18**, the wheel is set in motion, describing a circular path and carries the stick with it, during which movement the operator attempts to jump over the moving stick **18** without interrupting the movement of the wheel **10**.

As previously described, the wheel can be laid flat on the floor surface and started spinning on its hub surface, and the axle **20** can then be positioned in the bore **17** and an attempt made to lift the wheel off the floor surface while it continues spinning.

The end of the stick **18** can be placed on the ground and supported so as to define an acute angle to the ground surface. With the stick in this position, the wheel is placed on the upper end of the stick with the groove or recess **14** of the rim engaging the upper surface of the stick **18**. The wheel is then permitted to roll down along the path defined by the stick and as it rolls off the stick and continues free movement across the floor surface, the operator attempts to catch it and arrest it by means of the hook **24** or the radial axle **22**. It will be noted that

the provision of the groove **14** permits this maneuver to be accomplished without error, as the groove will cause the wheel to track on the cylindrical body **19** of the stick during its downward movement.

When the wheel is at rest or when it is desired to maintain the wheel at rest, the hook **24** and the axle **22** can be disposed across or between two spokes of the wheel or across or between the rim and a spoke of the wheel so as to retain and secure the wheel detachably to the stick **18**.

As the operator becomes more familiar with the device and becomes more proficient in manipulating it, he can develop refinements and more sophisticated techniques for testing his skill in various combinations of the stick and the wheel.

It will be noted that when the radial axle **22** is journalled in the wheel **10**, as illustrated in FIGS. 1 and 2, that the extension of the hub **11** beyond the nominal outline of the width of the wheel **10**, maintains the body **19** of the stick in spaced relationship to the plane of the main body of the wheel, so that the stick will not interfere with the rotation and movement of the wheel when the two parts are disposed in this position.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted too, without departing from the spirit of my invention, or the scope of the subjoined claim.

Having thus described my invention, I claim:

1. In a recreational device, the combination of a wheel having a circular rim, said rim having an annular groove therein, an axle hub on said wheel, radial spokes joining said axle hub to said rim, said hub projecting axially beyond the planes defined by the rim and the spokes of said wheel, and a manipulating stick engageable with said wheel in various manipulative positions thereof, said stick having a longitudinally-extending cylindrical body defining a track cooperable with said annular groove on which said rim can roll, said stick having a longitudinal extension of reduced diameter forming a circumferential shoulder thereon, said extension providing a first axle for selective journalling in said hub of said wheel, said shoulder providing an abutment engageable with said hub to limit the traversal of said hub by said first axle, said stick having a second axle projecting radially therefrom normal to the axis of said first axle and selectively engageable in said hub, said second axle being disposed rearwardly of said circumferential shoulder whereby to space said second axle from said wheel when said first axle is journalled in said hub, and said stick having a hook portion projecting in diametrical opposition to said second axle and curving forwardly toward said first axle, said hook portion having a free end terminating rearwardly of said shoulder to define a throat for selectively embracing said rim or one of said spokes of said wheel for manipulation thereof.

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LOUIS G. MANCENE, *Primary Examiner.*

C. R. WENTZEL, *Assistant Examiner.*