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A. P. CASEY

2,962,283

OCCUPANT OPERATED AQUATIC TOY

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Fig. 1

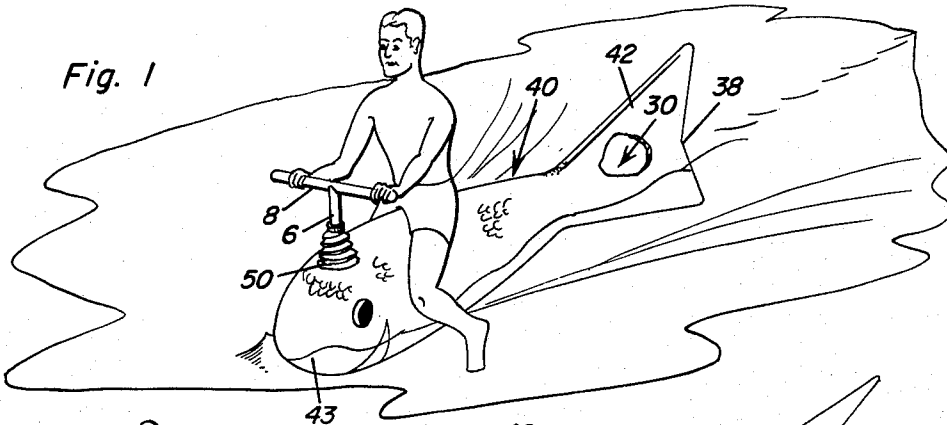


Fig. 2

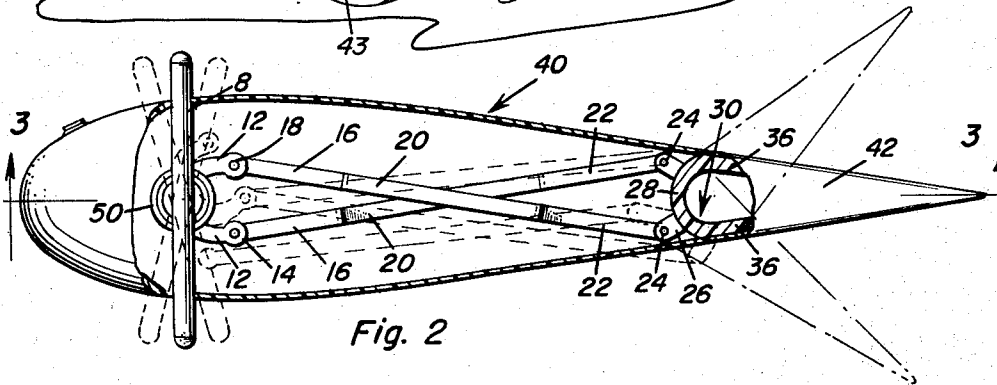


Fig. 3

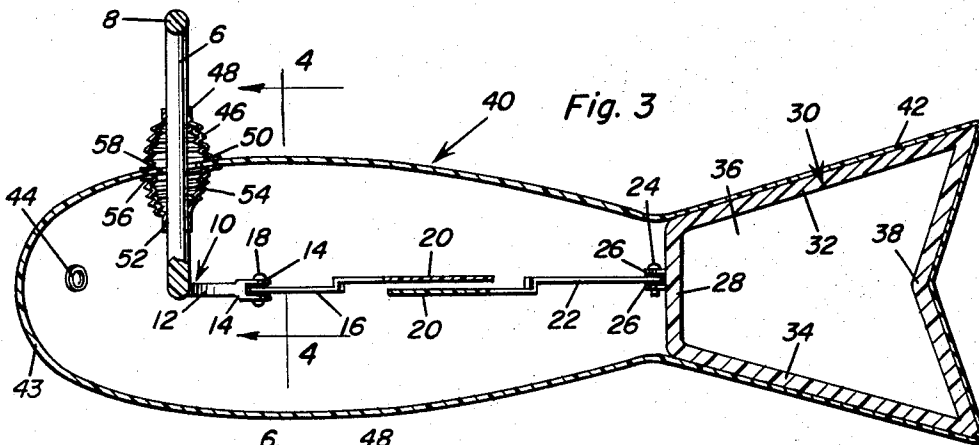
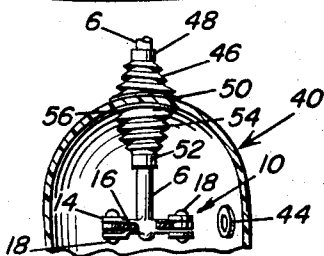


Fig. 4



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OCCUPANT OPERATED AQUATIC TOY

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12 Claims. (Cl. 272—1)

The present invention relates to an aquatic amusement device or toy which is characterized by an inflatable buoyant body which is shaped to imitate or represent a large fish, duck, small whale or similar creature and which is such that the occupant-rider may straddle the same and move about in a body of water. Toys having these characteristics are, of course, old and well known. It will be noted, however, that the user or rider of the toy usually propels the same and otherwise maneuvers it with the air of the feet and hands or where, for example, a second person pushes and shoves the toy about.

The instant invention is structurally and functionally distinguishable from prior art adaptations in that it utilizes a movable rudder-like tail portion, resembling a tail fin on a fish, as a means of propulsion.

In carrying out a preferred embodiment of the invention simple but novel mechanical motion transmitting means is provided to actuate the tail fin. More particularly the means comprises a vertically disposed shaft flexibly mounted on the forward dorsal portion of the body part of the toy, said shaft having a cross head functioning as a handle bar which when caught hold of and worked back and forth rotates the shaft. An operating connection within the toy serves to transmit the motion from the shaft to the tail fin.

In addition to the above improvement the invention features a bell crank at the lower end of the shaft and push-pull links affording a connection between the arms of the bell crank and a forward portion of the substantially rigid buoyant part of the tail fin.

Then, too, another improvement resides in completely enclosing and shielding the bell crank and the linkage so that the rider is protected therefrom.

Furthermore, simple elastic accordion-like components go to make up a boot, said boot being attached properly to the inflatable skin forming the body thus providing a unique way of joining an angularly rotatable manually turned shaft to a hollow body and the motion transmitting linkage therein.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying illustrative drawing.

In the drawing, wherein like numerals are employed to designate like parts throughout the views:

Fig. 1 is a perspective view showing the improved aquatic toy or amusement device and illustrating how the user or occupant straddles and operates the same;

Fig. 2 is a top plan view with portions broken away to show the interior drive or mechanism;

Fig. 3 is a section on the plane of the line 3—3 of Fig. 2, looking in the direction of the arrows; and

Fig. 4 is a fragmentary view taken on the vertical line 4—4 of Fig. 3.

The aforementioned vertical manually rotated or oscillated shaft is denoted by the numeral 6. This is a component of a T-shaped member usually made from a suitable grade of commercial plastics. The cross head 8 on

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the upper end thereof provides hand-grips embodied in a handle bar. Mounted on the lower end of the shaft is a generally semi-circular bell crank 10 the arms of which are denoted at 12 said arms terminating in spaced ears 14 between which the forward end portions 16 of motion transmitting links or push-pull links are pivotally mounted as at 18. The central portions of the push-pull links are offset to properly clear and cross each other as at 20. The rear end portions 22 are pivotally connected as at 24 to pairs of lugs 26 on the forward curvate or convex end portion 28 of the novel hollow buoyant plastic rudder 30. This part 30 may also be treated as a tail member or tail portion or may also be properly described as a fish-type tail fin. As shown in Fig. 3, the top and bottom walls 32 and 34 converge toward the front end 28. Conversely, they slant upwardly and rearwardly and are also decreased in cross-section so that they are wedge-shaped in plan as seen in Fig. 2. The side walls 36 are planar and converge or taper toward the terminal rear end which is of feather-edge construction. The rear end here denoted at 38 is also V-shaped in form. With the rear ends 22 of the push-pull links properly spaced on opposite sides of the center of the front end 28 it will be obvious that the reciprocating motion given the push-pull links by way of rotary motion from the shaft 6 causes the tail fin or rudder to switch from one side to the other so that when in the water it provides the desired forward propulsion motion.

The lower part of the shaft, push-pull links, and specially constructed buoyant tail member 30 are all enclosed in a hollow body or inflatable skin and this is denoted generally by the numeral 40. The portion 42 of the skin snugly envelopes the motion delivering tail fin 30. The central or body portion is of requisite cross-section and shape so that when it is inflated it permits the occupant to straddle and ride thereon in the manner illustrated in Fig. 1. The forward end is fashioned into a suitable head as at 43. The numeral 44 designates an inflation valve. The flexible connection between the median portion of the shaft 6 and the dorsal part of the body comprises a two-part boot. The upper part 46 is corrugated or of accordion-like construction and has a neck 48 fitting tightly around the upper part of the shaft. The lower part of this section is securely fastened to the exterior surface of the body as at 50. The lower section or part of the boot is of similar construction having a neck 52 surrounding the enclosed lower portion of the shaft, having a body portion 54, and a base 56 which is fastened to the interior of the body portion. These parts cooperate in providing a flexible mount or "bushing" for the shaft, the shaft extending through an opening 58 provided therefor and said opening being closed by way of the boot sections.

As understood, a toy of this type can be permanently inflated with compressed gas or it may be satisfactorily inflated with air from a pump attached to the valve means 44. It will be further understood that the shape, color and other characteristics of the over-all inflatable body 40 may vary to represent various animals, fishes and so on. However, the main idea is enclosing and providing the shaft actuated mechanism which converts rotary motion of the shaft into reciprocating motion for the push-pull links with the links switching or actuating the buoyant rudder or tail member 30 back and forth in the manner shown in dotted lines in Fig. 2.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and

equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An aquatic occupant-supporting mechanically-propelled toy comprising a hollow buoyant toy having a head, body and tail portions, said body portion functioning to permit the occupant to straddle and ride horse-back-style thereon, said tail portion being movable from side-to-side in a manner to move and propel the over-all toy in a body of water, a vertical shaft mounted for angular rotation on said body portion and having accessible means at an upper end thereof whereby the occupant may oscillate the shaft back and forth, and an operating connection between the shaft and tail portion and serving to alternately switch the tail from left to right or vice versa in a manner to impart motion to said toy.

2. An aquatic occupant-supporting mechanically-propelled toy comprising a hollow buoyant toy having a head, body and tail portions, said body portion functioning to permit the occupant to straddle and ride horse-back-style thereon, said tail portion being movable from side-to-side in a manner to move and propel the over-all toy in a body of water, a vertical shaft mounted for angular rotation on said body portion and having accessible means at an upper end thereof whereby the occupant may oscillate the shaft back and forth, and an operating connection between the shaft and tail portion and serving to alternately switch the tail from left to right or vice versa in a manner to impart motion to said toy, said means comprising a horizontally supported handle-bar.

3. An aquatic occupant-supporting mechanically-propelled toy comprising a hollow buoyant toy having a head, body and tail portions, said body portion functioning to permit the occupant to straddle and ride horse-back-style thereon, said tail portion being movable from side-to-side in a manner to move and propel the over-all toy in a body of water, a vertical shaft mounted for angular rotation on said body portion and having accessible means at an upper end thereof whereby the occupant may oscillate the shaft back and forth, said shaft having a bell-crank affixed to its lower end in the hollow space of said body portion, and linkage means connected with the arms of the bell-crank and movable forwardly of said tail portion and providing motion transmitting means between the shaft and tail portion.

4. The structure defined in claim 3, and wherein said tail portion is designed and constructed in imitation of the tail fin of a fish so that when operated and flapped from side-to-side it provides the impetus and forward driving motion attainable as a result thereof.

5. The structure defined in claim 3, and wherein said tail portion is designed and constructed in imitation of the tail fin of a fish so that when operated and flapped from side-to-side it provides the impetus and forward driving motion attainable as a result thereof, said tail having rearwardly and upwardly inclined and tapering top and bottom walls, rearwardly converging side walls, and a V-shaped trailing end.

6. The structure defined in claim 3, and wherein said tail portion is designed and constructed in imitation of the tail fin of a fish so that when operated and flapped from side-to-side it provides the impetus and forward driving motion attainable as a result thereof, said tail having rearwardly and respectively upwardly and downwardly inclined and diverging top and bottom walls, rearwardly converging side walls and a V-shaped trailing end, and being hollow and buoyant.

7. An aquatic occupant-supporting mechanically-propelled toy comprising a hollow buoyant toy having a head, body and tail portions, said body portion functioning to permit the occupant to straddle and ride horse-back-style thereon, said tail portion being movable from side-to-side in a manner to move and propel the over-all toy in a body of water, a vertical shaft mounted for angular rotation on said body portion and having accessible means

at an upper end thereof whereby the occupant may oscillate the shaft back and forth, said shaft having a bell-crank affixed to a lower end in the hollow space of said body portion, and linkage means connected with the arms of the bell-crank and movable forwardly of said tail portion and providing motion transmitting means between the shaft and tail portion, and flexible means operatively mounting the intermediate portion of said shaft atop said body.

8. In an aquatic toy construction, a buoyant tail-fin, a T-shaped member embodying a vertical shaft and a cross-head at the upper end of the shaft providing a manually movable handle-bar for turning said shaft, bell-crank means affixed to the lower portion of said shaft, a pair of centrally crossing push-pull links having forward ends hingedly joined to the arms of the bell-crank means and rearward ends spaced apart and hingedly joined to the forward end of said tail-fin.

9. In an aquatic toy construction, a buoyant tail-fin, a T-shaped member embodying a vertical shaft and a cross-head at the upper end of the shaft providing a manually movable handle-bar for turning said shaft, bell-crank means affixed to the lower portion of said shaft, a pair of centrally crossing push-pull links having forward ends hingedly joined to the arms of the bell-crank means and rearward ends spaced apart and hingedly joined to the forward end of said tail-fin, an inflated elastic skin-like body snugly enclosing said tail-fin, and enveloping a major portion of the shaft and also the bell-crank means and push-pull links.

10. In an aquatic toy construction, a buoyant tail-fin, a T-shaped member embodying a vertical shaft and a cross-head at the upper end of the shaft providing a manually movable handle-bar for turning said shaft, bell-crank means affixed to the lower portion of said shaft, a pair of centrally crossing push-pull links having forward ends hingedly joined to the arms of the bell-crank means and rearward ends spaced apart and hingedly joined to the forward end of said tail-fin, an inflated elastic skin-like body snugly enclosing said tail-fin, and enveloping a major portion of the shaft and also the bell-crank means and push-pull links, and a junctional operating and supporting connection between a median part of the shaft and forward dorsal portion of said body comprising an elastic boot.

11. An aquatic occupant-supporting mechanically-propelled toy comprising a hollow buoyant toy having a head, body and tail portions, said body portion functioning to permit the occupant to straddle and ride horse-back-style thereon, said tail portion being movable from side-to-side in a manner to move and propel the over-all toy in a body of water, a vertical shaft mounted for angular rotation on said body portion and having accessible means at an upper end thereof whereby the occupant may oscillate the shaft back and forth, said shaft having a bell-crank affixed to its lower end in the hollow space of said body portion, and linkage means connected with the arms of the bell-crank and movable forwardly of said tail portion and providing motion transmitting means between the shaft and tail, and flexible means operatively mounting the intermediate portion of said shaft atop said body, said flexible means comprising an elastic boot made up of component sections with one section attached to the exterior of the body and the other section attached to the interior and depending into the interior.

12. An aquatic occupant-supporting mechanically-propelled toy comprising a hollow buoyant toy having a head, body and tail portions, said body portion functioning to permit the occupant to straddle and ride horse-back-style thereon, said tail portion being movable from side-to-side in a manner to move and propel the over-all toy in a body of water, a vertical shaft mounted for angular rotation on said body portion and having accessible means at an upper end thereof whereby the occupant may oscillate the shaft back and forth, said shaft having a bell-

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crank affixed to its lower end in the hollow space of said body portion, and linkage means connected with the arms of the bell-crank and movable forwardly of said tail portion and providing motion transmitting means between the shaft and tail, and flexible means operatively mounting the intermediate portion of said shaft atop said body, said flexible means comprising an elastic boot made up of component sections with one section attached to the exterior of the body and the other section attached to the interior and depending into the interior, said sections being 10

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of accordion-like form and having restricted neck portions embracing cooperating portions of the exterior and interior parts of the shaft.

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