Sept. 7, 1965 M. GRAIN 3,204,951

OCCUPANT PROPELLED AQUATIC DEVICE

Filed Jan. 16, 1963

FIG. 1

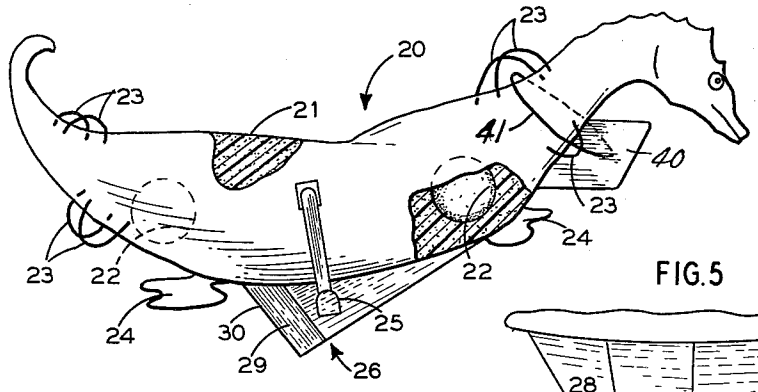


FIG. 5

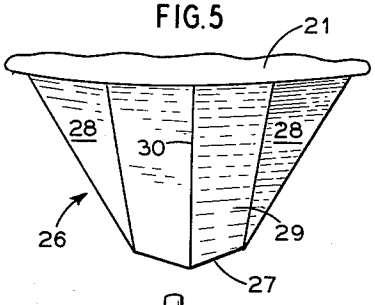


FIG. 3

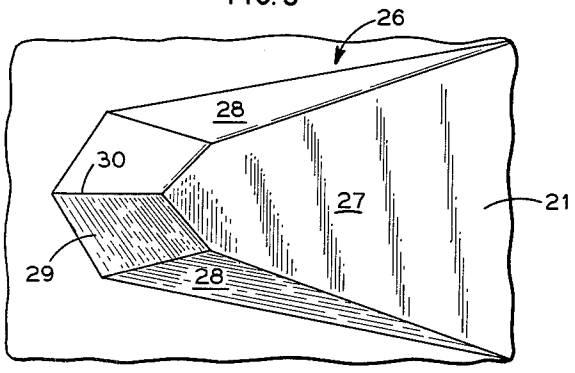


FIG. 2

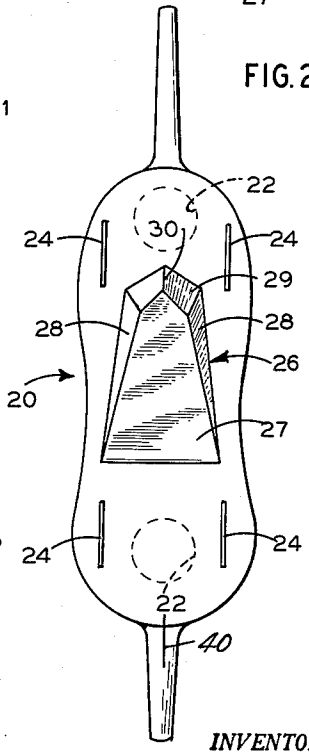


FIG. 7

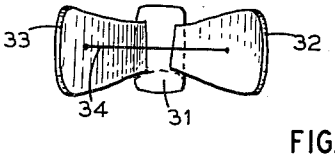


FIG. 8

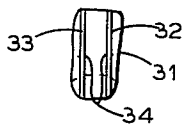


FIG. 4

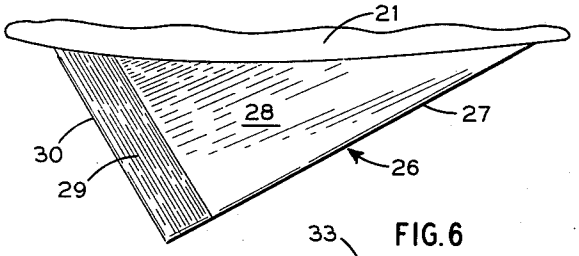
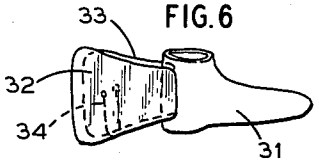


FIG. 6



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OCCUPANT PROPELLED AQUATIC DEVICE

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This invention relates generally to a floating aquatic device, and more specifically to a novel manually operated, propelling aquatic device or float.

An object of this invention is to provide a novel aquatic floating device which is provided with manually operated propelling means for imparting a forward thrust thereto.

Another object is to provide an aquatic floating device which can be readily straddled by an occupant, and which can be propelled in any desired direction by an up and down bobbing movement imparted thereto by the posting action of a rider or occupant straddled thereon.

Another object is to provide a water float with propelling means constructed and arranged so as to displace a quantity of water whereby the reaction of such displacement imparts a forward thrust to the float.

Another object is to provide an improved propelling float that is relatively simple in construction, relatively inexpensive, and positive in operation.

A feature of this invention resides in the provision that the float body is made of a cellular or foam type plastic so as to render it puncture proof.

Another feature resides in the provision that the floating device is soft, comfortable and stable in water, and which can be readily straddled by its rider.

Other features and advantages will become more readily apparent when considered in view of the drawings and description in which:

FIG. 1 is a side elevation view of the propelling floating device of this invention.

FIG. 2 is a bottom view of FIG. 1.

FIG. 3 is an enlarged bottom view of a detailed portion of the invention of FIG. 1.

FIG. 4 is an enlarged side elevation view of a detail portion of the invention.

FIG. 5 is an end rear view of the portion disclosed in FIG. 1.

FIG. 6 is a side view of a means adapted to be worn by the rider to enhance the forward thrust.

FIG. 7 is a rear view of FIG. 6 showing the means in operative position.

FIG. 8 is a rear view of FIG. 6 showing the means in inoperative position.

Referring to the drawings there is shown an occupant propelling aquatic device **20**. As best seen in FIG. 1 the device **20** comprises a water buoyant body member **21**, preferably formed in the shape of a sea-horse, or any other desirable animated form which would be pleasing and amusing to children and/or adults. Preferably the body member **21** is formed of a generally solid plastic foam or cellular material which is rendered readily buoyant in water. This form of construction is not subjected to punctures or loss of air as is common to inflatable type floating devices. To enhance the buoyancy of the device **20**, the body portion **21** may be formed with internal voids or spaces **22** filled with air or the like, the size of the void or space being determined by the amount of buoyancy desired.

If desired suitable handles in the form of integrally connected C-shaped hand grips **23** are connected to various portions of the body. As for example, handles are located at the shoulder portion of the animated form, at the upper tail section, lower tail section, and at the neck portion. Thus the various handles can accommodate the portage of the device in a number of various manners to suit the convenience of the carrier. Also, in the event

of upset in the water, the numerous handles or grips **23** provide alternate means by which the body **21** may be gripped and righted. To stabilize the body in water, fins **24** are connected to the under-surface of the body member.

It is to be noted that the body portion **21** of the animated form is sized so that it can be readily straddled by its occupant. For this reason stirrup **25** may be provided on either side of the body **21** to support one's feet from the straddling position.

In accordance with this invention means are provided for propelling the device through the water merely by a posting action imparted to the body member **21** by an occupant simulating a horse-back ride. The propelling means **26** comprises a prismatic or box-like form which is connected to the submerged portion of the device. It will be understood that the prismatic form may be made either as an integral part of the device **20**, or as a separable part which can be readily secured to the underside of the device.

As shown in the drawing, the prismatic form **26** includes a bottom surface, wall or facet **27** which is flat and slopes downwardly and to the rear of the body member. As seen in FIGS. 2 and 3, the bottom wall **27** tapers or narrows toward the rear end thereof. A pair of opposed side walls or facets **28** interconnect the bottom wall **27** to the bottom member **21**. As seen in FIGS. 2, 3 and 5, the side walls **28** incline upwardly and outwardly. Closing the back or rear of the prismatic form **26** is a rear wall or facet **29**. In the illustrated embodiment the rear wall **29** is angled to define an apex at **30** at the juncture or center portion thereof. However, it will be understood that the rear wall **29** may be formed flat, and inclined upwardly and outwardly substantially at the angle of the rear wall as shown in FIG. 4.

Thus with the prismatic form **26**, as shown and described, it will be apparent that upon the up and down bobbing action of the body member **21** as a result of the posting action of a rider or occupant thereon, that the device **20** will have imparted thereto a forward thrust which will propel it through the water. This forward thrust is produced by effecting first the displacement of the water on the downward movement of the device **20**, and then on the rising movement thereof, the reaction of the water rushing in to occupy the space of the water displaced will impart a force on the tapered side walls **28** in the general direction thereof. Consequently a forward thrust is imparted to the device which will advance the body member **21** through the water an increment at a time on each up and down motion of the body. It will be apparent that the amusement of the rider is thus enhanced by the actual propelling of the device through the water with each posting action of the rider. The stirrups **25** on the sides of the body member **21**, serve to provide a firm support to further aid the occupant in producing the desired posting acting to impart the desired up and down bobbing action required to produce the forward thrust.

To further enhance the forward thrust of the device the rider or occupant may be fitted with means attached to his feet, which will produce additional thrust. As shown in FIGS. 6 to 8, these means comprise a boot or shoe **31** which can be worn by the rider. Connected to the rear of the boot **31** are a pair of flapper fins **32, 33**. One end of each fin **32, 33** is hingedly connected to the shoe **31** so that the respective fins **32, 33** can flap between open and closed position as shown in FIGS. 7 and 8. Preferably each fin **32, 33** comprises a substantially flat, relatively rigid vertically disposed member. Thus it will be apparent that when the rider kicks backward, the reaction of the water on the flapper fins **32, 33** moving rearwardly therethrough causes the flapper fins **32, 33**

to spread apart to open position as seen in FIG. 7. In this position resistance to water is maximum and a forward thrust is produced. To limit the spread or open position between fins 32, 33 the fins are tied together by a flexible cord 34. Preferably the cord 34 is sufficiently long so as to limit the angle formed between fins 32, 33 to substantially 90° in the open or spread position thereof. When the rider brings his feet forward in preparation for another backward kick, the movement of the fins 32, 33 through the water will cause them to swing to closed position, in which position they are disposed in contiguous parallel relation as shown in FIG. 8. In this position, the fins offer minimal resistance to the water. Thus, on each backward kick, an additional forward thrust can be imparted to the device 20 which will supplement that produced by the up and down bobbing motion of the device.

While the flapper fins 32, 33 are shown as connected to a boot 31, it will be understood that the same can be attached to an ankle strap which can be merely buckled to one's ankle.

Means are provided for steering or directing the floating device through the water. The steering means comprises a rudder 40 which is hingedly connected along one edge thereof to the neck portion of the device. A rein 41 or strap connected to the rudder 40 is provided by which a rider is able to effect movement of the rudder 40, and thereby control the direction of the device through the water.

While the instant invention has been disclosed with reference to a particular method and a particular embodiment for practicing the same, it is to be appreciated that the invention is not to be taken as limited to all of the details thereof as modifications and variations thereof may be made without departing from the spirit or scope of the invention.

What is claimed is:

1. An occupant operated propelling aquatic device comprising means shaped in the form of an animated animal or the like and adapted to be straddled by an occupant, said means being formed so as to be rendered buoyant in water, and means connected to the bottom of said first mentioned means for imparting a positive propelling thrust to said first mentioned means in a forward direction through the water upon an up and down movement imparted to said first mentioned means by the posting movements of the occupant straddling said first mentioned means, wherein said propelling means comprises a prismatic form having a bottom wall extending downwardly and rearwardly from the first mentioned means, said wall having its opposed side edges tapering inwardly toward the rear end thereof, a pair of outwardly flaring side walls extending between the edges of said bottom wall and said body member, and a rear wall interconnecting said bottom and side walls to said first mentioned means.

2. An occupant operated propelling aquatic device comprising a buoyant body member shaped in the form of an animated caricature and sized so as to be straddled by an occupant, handle means connected to the body to provide hand holds, fin means connected to the sides of said body member for stabilizing the same in water, and a propelling prismatic means connected to the submerged underside of said body member, said prismatic means including a front facet portion connected to said body member so as to incline downwardly and rearwardly therefrom, a pair of upwardly and outwardly extending side facets connecting the opposed edges of said front facet to said body member, said side facets tapering inwardly toward the rear end thereof, and a rear facet connecting the side facets and front facet to said body member, said prismatic means transmitting a forward thrust to said body member as a result of the reaction of the water due to the displacement thereof by an up and down bobbing movement imparted to said body member by the posting action of an occupant thereon.

3. The invention as defined in claim 2 wherein said body member is provided with fore and aft air chambers to enhance the buoyancy thereof.

4. An occupant operated propelling aquatic device comprising:

(a) a body member shaped in an animated form, and sized so as to be straddled by an occupant;
(b) said body member being made of a plastic foam material which is buoyant in water,
(c) and said body having an internal enlarged chamber located fore and aft therein to enhance its buoyancy,
(d) fins connected to a submerged portion of the body member for stabilizing the same in water,
(e) handle means connected to said body member to provide handle grips,
(f) stirrups connected to each side of the body member to provide a rest for occupant's feet,
(g) means for imparting a forward thrust to said body member for propelling the same through water,
(h) said means including a prismatic shape connected to the submerged under-portion of said body,
(i) said prismatic shape including a front facet having a plane surface extending downwardly and rearwardly,
(j) said front facet having its side edges tapering inwardly toward its rear end,
(k) a pair of opposed upwardly extending side facets connected between said body and the side edges of said front facet,
(l) said side facets outwardly inclined at the upper ends thereof,
(m) and a rear facet connected between said side facets,
(n) said prismatic means transmitting a forward thrust to said body member upon the up and down bobbing movement imparted thereto by the posting action of the occupant thereon,
(o) a rudder connected to said body for steering said body member through the water,
(p) and means connected to said rudder for controlling the same from a straddling position.

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