July 3, 1956 C. S. FOWLER ET AL 2,752,617

AQUATIC DEVICE

Filed March 8, 1954 2 Sheets-Sheet 1

Fig. 1

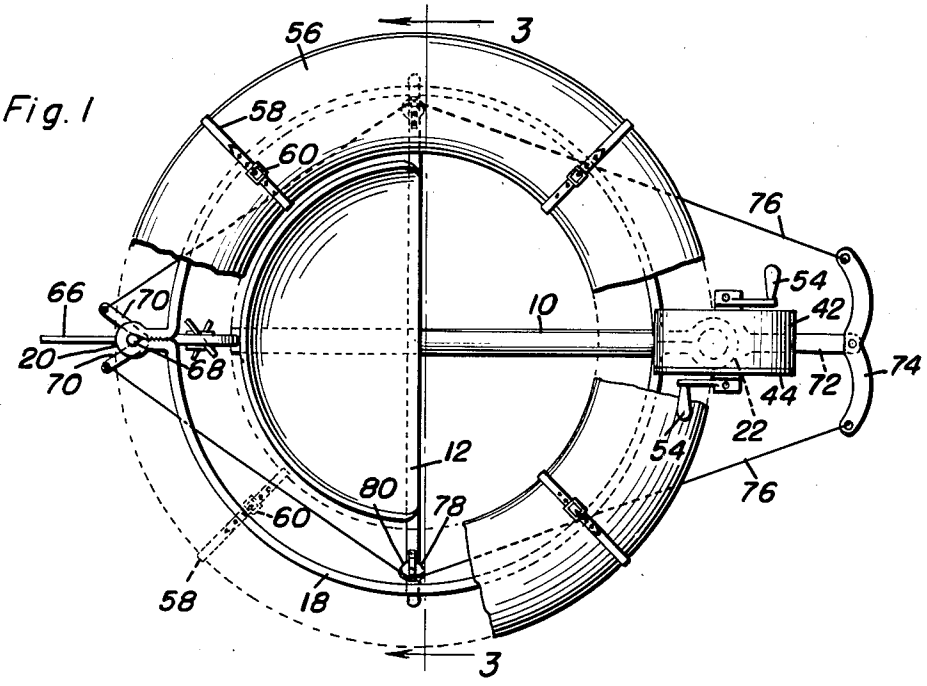
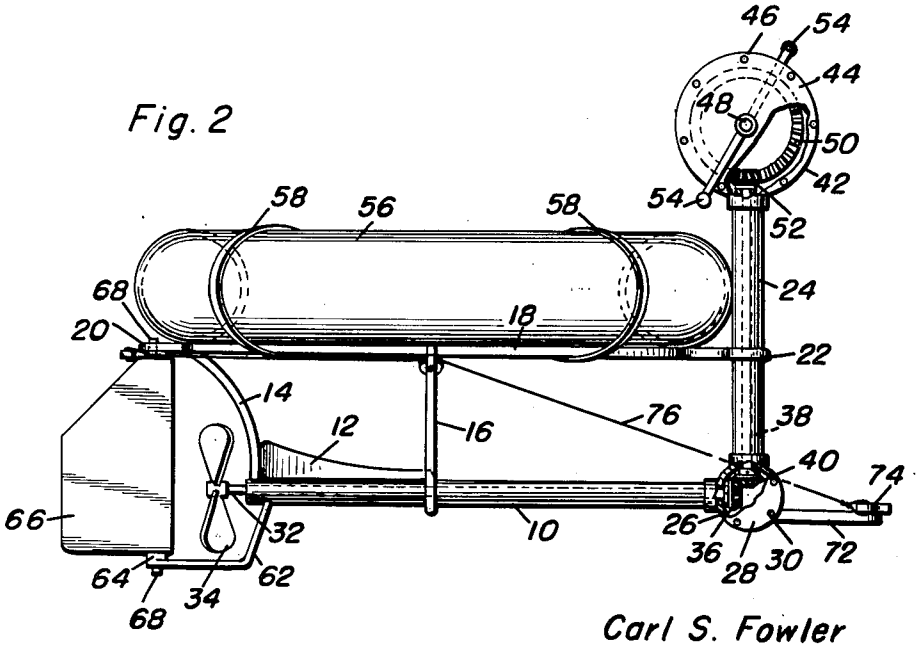


Fig. 2



Carl S. Fowler
Maurice C. Garlick
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

July 3, 1956 C. S. FOWLER ET AL 2,752,617

AQUATIC DEVICE

Filed March 8, 1954 2 Sheets-Sheet 2

Fig. 3

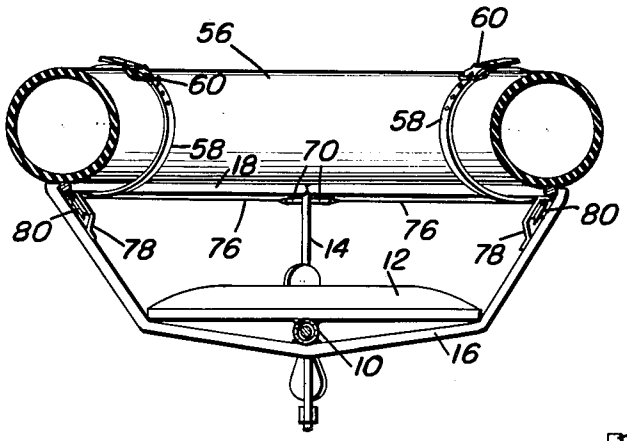


Fig. 4

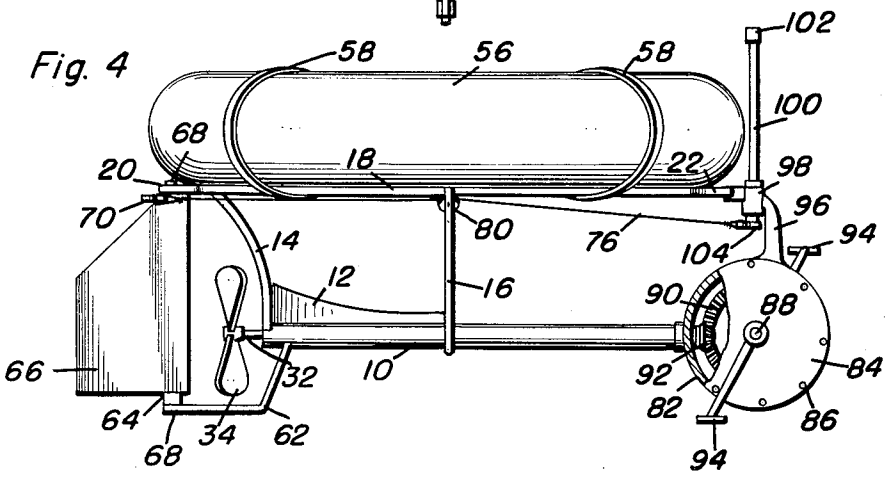
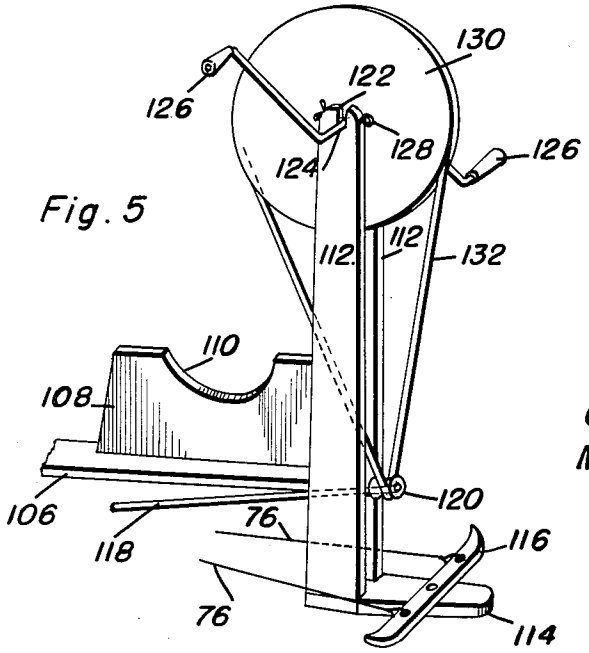


Fig. 5



Carl S. Fowler
Maurice C. Garlick
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jackson
Attorneys

United States Patent Office 2,752,617 Patented July 3, 1956

2,752,617

AQUATIC DEVICE

Carl S. Fowler and Maurice C. Garlick, Easton, Pa.

Application March 8, 1954, Serial No. 414,625

2 Claims. (Cl. 9—18)

This invention relates to an aquatic device and more particularly to an amusement device for children which can be used in a body of water whereby the child can propel himself along the surface of the water.

An object of this invention is to provide an aquatic device having a body of floatable material whereby the device will float on the surface of the water.

Another object of this invention is to provide an aquatic device which is floatable on the surface of a body of water and having novel means thereon whereby the child using the device can propel himself by using his hands.

A further object of this invention is to provide an aquatic device which will float on the surface of a body of water wherein a child can propel himself by using his hands and steer the device by using his feet.

A yet further object of this invention is to provide an aquatic device which is floatable on a body of water wherein a child using the same can propel himself by using his feet and steer the device by using his hands.

A still further object of this invention is to provide an aquatic device having novel propulsion means mounted thereon.

Another object of this invention is to provide an aquatic device which is simple and efficient in construction, endurable and lasting in use.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a top plan view of a preferred form of the aquatic device forming the subject of this invention;

Figure 2 is a side elevational view of the aquatic device illustrated in Figure 1;

Figure 3 is a sectional view taken substantially along the section line 3—3 of Figure 1;

Figure 4 is a side elevational view of a modified form of aquatic device made in accordance with this invention; and

Figure 5 is a perspective view of a modified form of drive means for the device illustrated in Figure 1.

Referring now more particularly to the accompanying drawings, it will be seen that the aquatic device forming the subject of this invention includes a frame formed of an elongated member **10** having a seat **12** secured thereto adjacent one end. An arcuate-shaped brace member **14** is secured to the end of the member **10** and extends upwardly therefrom behind the seat **12**. A U-shaped brace member **16** is secured to the member **10** adjacent the forward end of the seat **12** and has the leg portions thereof extending vertically above the seat **12**. A ring **18** is secured to the upper ends of the brace members **14** and **16**. Any suitable means may be used to secure the seat **12**, brace members **14** and **16** to the member **10**. Further, any suitable means can be used for securing the ring **18** to the upper ends of the brace members **14** and **16**.

The diametrically opposite points of the ring **18** are provided with projections **20** and **22**. The projection **20** is positioned adjacent the brace member **14** and forms a collar spaced from the ring **18**. The projection **22** extends in a direction away from the seat **12** and also forms a collar positioned outwardly of the ring **18**. Secured within the collar **22** is a vertically extending post **24**. The post **24** is connected at its lower end to the member **10** by a housing **26**. The housing **26** may have removable side plates **28** secured thereto by suitable fasteners **30**.

The member **10** and the post **24** are each tubular in form and a drive shaft **32** is mounted for rotation within the member **10** in any suitable manner. Secured to the end of drive shaft **32** which projects beneath the brace member **14** is a propeller blade **34**. The other end of the drive shaft **32** is provided with a bevel gear secured thereto and disposed within the housing **26**. A vertically extending jack shaft **38** is rotatably mounted within the post **24** and is provided with a bevel gear **40** fixedly secured to its lower end and in mesh with the bevel gear **36** on the drive shaft **32**.

Secured to the upper end of the post **24** is a housing **42**. The housing **42** is provided with a removable side plate **44** which is secured thereto by suitable fasteners **46**. A shaft **48** extends through the housing **42** and is disposed horizontally and transverse to the longitudinal axis of the member **10**. Secured to the shaft **48** within the housing **42** is a bevel ring gear **50**. A bevel gear **52** is secured to the upper end of the shaft **38** and is in mesh with the teeth of the gear **50**. The shaft **48** extends from opposite sides of the housing **42** and is provided at each end with an offset crank handle **54** which is secured thereto in any suitable manner. Thus, it will be seen that movement of the crank handles **54** will cause rotation of the gear **50** which, in turn, will cause rotation of shaft **38** and shaft **32** to rotate the propeller blade **34**.

A body **56** of floatable material is adapted to be secured to the upper surface of the ring **18** whereby the device will float on a body of water with the seat **12** submerged therein. Suitable straps **58** having buckles **60** are used for securing the body **56** to the ring **18**. The body **56** is preferably annular-shaped and may be formed of an inflatable tube, as shown in the drawings, or may be of any solid floatable material. Thus, it will be seen that when the device is placed in a body of water and the handles **54** actuated, the device will be propelled through the body of water.

Means are provided on the device for steering the same when being propelled through a body of water. This means comprises a brace **62** secured to the rear end of member **10** and extending downwardly and rearwardly therefrom. The free end of the brace **62** is provided with a collar **64** having an opening therethrough which is in alignment with the opening in the projection **20**. A rudder blade **66** is provided with suitable projections **68** extending from opposite ends thereof and adjacent one side thereof. The projections **68** are adapted to be received in the aligned openings in the projection **20** and the collar **64**. Thus, it will be seen that the rudder blade **66** is free to move about a vertical axis. Secured to the upper end of the rudder blade and extending from opposite sides thereof are a pair of arms **70**. The housing **26** is provided with a bracket **72** which extends forwardly from the housing. Pivotally secured at its midpoint to the bracket **72** is a control lever **74**. Suitable control cables **76** are connected at one of their ends to one of the arms **70** and at their other ends to the opposite ends of the levers **74**. Thus, movement of the control levers **74** about the vertical axis will cause the rudder **66** to also move about its vertical axis.

In order to maintain the cables **76** out of contact with a person seated on the seat **12**, brackets **78** are

mounted on the upper ends of the legs of brace member **16**. A pulley **80** is mounted for rotation on the brackets **78** and the cables **76** are adapted to be entrained around the pulleys **80** to maintain the cables out of contact with the person on the seat **12**.

In the modification above described, the device is placed in a body of water and a person sits on the seat **12**. The person propels the device by operating the handles **54** and steers the device by placing his feet on the control levers **74**. Thus, the device is capable of both propulsion and steering when a person is using the same.

In the modification illustrated in Figure 4, the structure of the member **10**, seat **12**, braces **14** and **16** and ring **18** is the same as that above described. Further, the floatable body **56** is the same as that described above. Also, the construction of the brace **62** and the rudder **66** is the same. In this modification, an enlarged housing **82** is secured to the forward end of the member **10**. This housing **82** is provided with a removable side plate **84** secured thereto by suitable fasteners **86**. A shaft **88** extends through the housing **82** transverse to the longitudinal axis of the member **10** and in a horizontal position. Secured to the shaft **88** within the housing **82** is a bevel ring gear **90**. A bevel gear **92** is fixed to the forward end of the drive shaft **32** which is rotatably mounted within the member **10** and is in mesh with the gear **90**. Suitable pedals **94** are secured to opposite ends of the shaft **88** outwardly of the housing **82**. Thus, it will be seen that the modification disclosed in Figure 4 is propelled by the person seated on the seat **12** using his feet.

Secured to the housing **82** and extending upwardly and rearwardly therefrom is a bracket **96**. The bracket **96** is secured at its upper free end to the projection **22**. The bracket **96** is further provided with a collar **98** having a vertically extending aperture therethrough. A rod **100** is rotatably mounted in the aperture in collar **98** and extends vertically upwardly above the upper surface of the body **56**. Secured to the upper end of the rod **100** and extending from opposite sides thereof are radially extending handles **102**. A control lever **104** similar to the control levers **74** is fixedly secured at its midpoint to the lower end of the rod **100**. The cables **76** are secured at their forward ends to the control lever **104**. The pulleys **80** can be used in conjunction with this modification to maintain the cables **76** out of contact with a person seated on the seat **12**. Thus, it will be seen that in this modification, a person seated on the seat **12** can steer the device by grasping the handle **102** with his hand and can propel the device by operating the pedals **94** with his feet.

The modification disclosed in Figure 5 is similar to that disclosed in Figure 1, but wherein the drive means for the propeller blade is different. In this modification, there is disclosed an elongated member **106** which is similar to the member **10**, except that it is not hollow. Extending upwardly from the member **106** at each end is a brace **108** having a notch **110** in its upper edge. The body **56** would be adapted to be positioned within the notch **110** and straps **58** could be used for securing the body **56** in position on the brace **108**. Further, the seat **12** would be secured to the member **106** adjacent its rear end.

A post is secured to the forward end of the member **106** and is formed of a pair of parallel members **112**. These members **112** have a major portion thereof extending vertically above the member **106** and a minor portion extending below the member **106**. Secured to the lower end of the members **112** is a forwardly extending bracket **114**. A control lever **116** is pivotally secured at its midpoint to the bracket **114**. The control lever **116** is similar in all respects to the control lever **74** and the cables **76** are connected to opposite ends thereof. The rudder structure of the modification illustrated in Figure 5 is similar in all respect to the rudder structure of the modification disclosed in Figure 1.

The drive shaft for a propeller blade similar to propeller blade **34** extends longitudinally of the member **106** and between the members **112**. This drive shaft **118** is provided at its forward end with a pulley **120** fixedly secured thereto. Any suitable bearings may be used for mouting the drive shaft **118** on the member **106**. The upper end of each of the members **112** is provided with a vertically extending slot **122** which opens in the upper face of the members **112**. A shaft **124** is received within the slots **122** and is provided with offset handle portions **126** at opposite ends thereof and spaced outwardly of the members **112**. A suitable cotter pin **128** extends through the members **112** and intersects the slots **122** above the shafts **124** for retaining the same in position.

A pulley **130** is fixedly secured to the shaft **124** between the members **112**. A suitable flexible belt **132** is entrained around the pulley **130** and the pulley **120** whereby movement of the handles **126** will cause the rotation of shaft **118**.

The modification shown in Figure 5 is preferably constructed of wood or the like. The person using the modification of Figure 5 will sit on a seat corresponding to seat **12** and will operate the handles **126** with his hands and will operate the control lever **116** with his feet.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, 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 shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. An aquatic device comprising a tubular horizontal frame member having a housing at one end, U-shaped brackets rising from said member, a horizontal ring fixed to said brackets above said member, an annular float fixed on said ring concentric thereto, a tubular post rising from said housing above said float and having a housing on its upper end, a propeller shaft in said member having a propeller thereon at the other end of the member, a jack shaft in said post, means in the first named housing operatively connecting the jack shaft to said propeller shaft, a transverse drive shaft extending horizontally through the second named housing and provided with a pair of end hand cranks thereon above said float, means in the second named housing operatively connecting the drive shaft to the jack shaft, and a seat on said member below said ring and encircled thereby and by said float.

2. A device according to claim 1 including a bracket extending from the first named housing oppositely relative to said member, a foot operated control lever pivoted on said bracket, and steering means to which said lever is operatively connected.

References Cited in the file of this patent

UNITED STATES PATENTS

1,144,904	Kamioka	June 29, 1915
1,322,403	Bidonde	Nov. 18, 1919
1,332,634	Piateski	Mar. 2, 1920
1,473,514	Pinkard	Nov. 6, 1923
1,506,283	Bartolomucci	Aug. 26, 1924
1,610,778	Helm	Dec. 14, 1926
1,785,971	O'Connor	Dec. 23, 1930
1,793,528	Szabo	Feb. 24, 1931
1,793,973	Stamegna	Feb. 24, 1931
2,681,459	Paquette	June 22, 1954

FOREIGN PATENTS

357,033	Great Britain	Sept. 17, 1931
578,009	France	Sept. 15, 1924