Nov. 20, 1945. K. H. PIESCH 2,389,456

MERRY-GO-ROUND ON WATER

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Fig. 1.

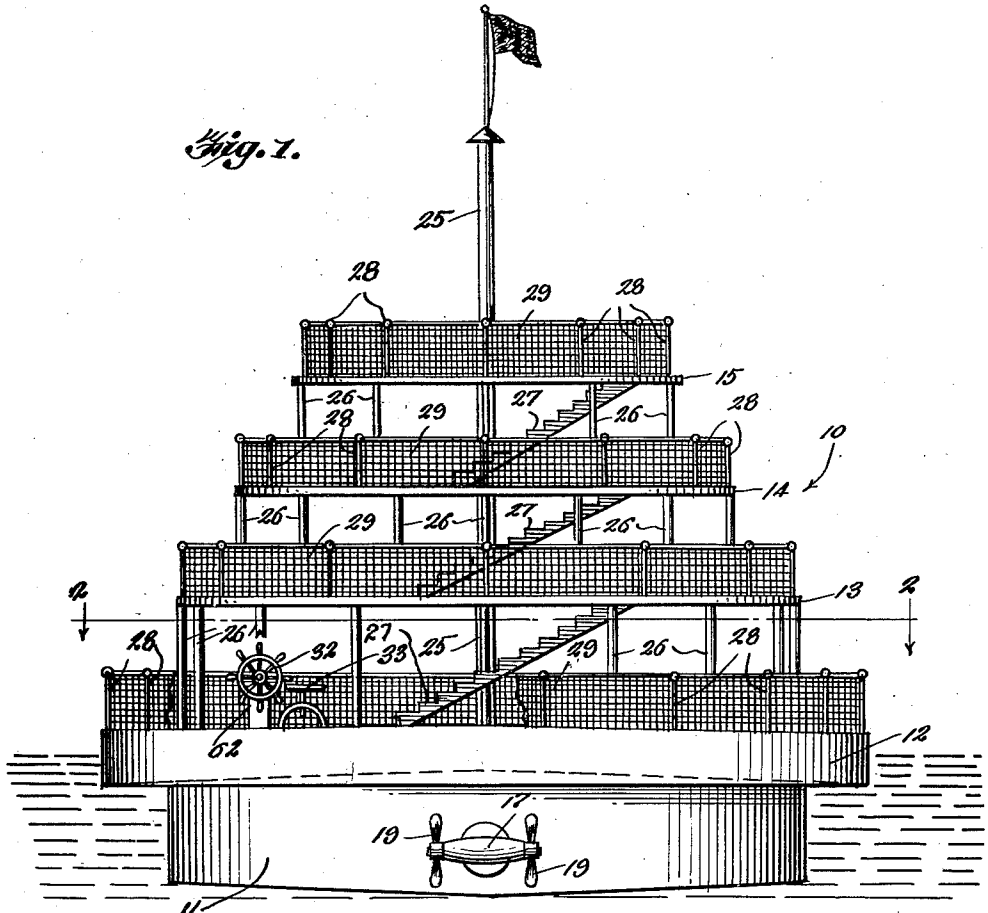

Fig. 2.

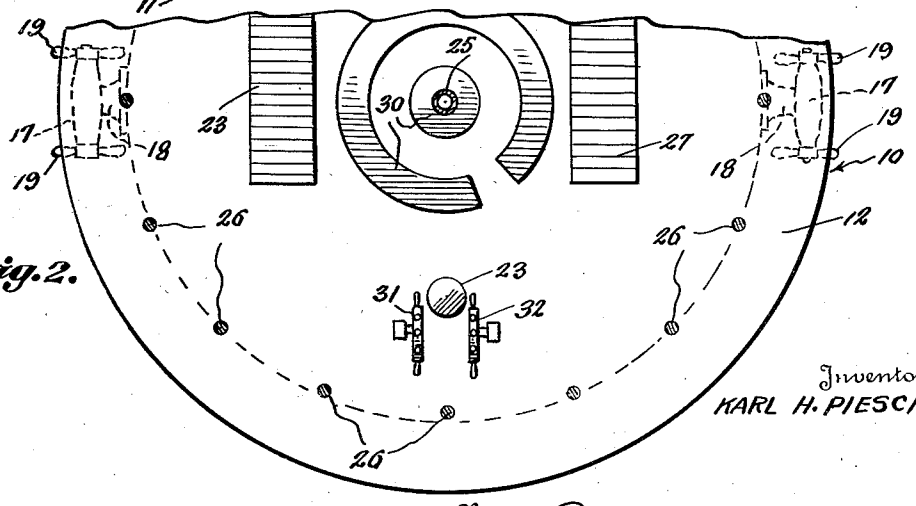

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Fig. 3.

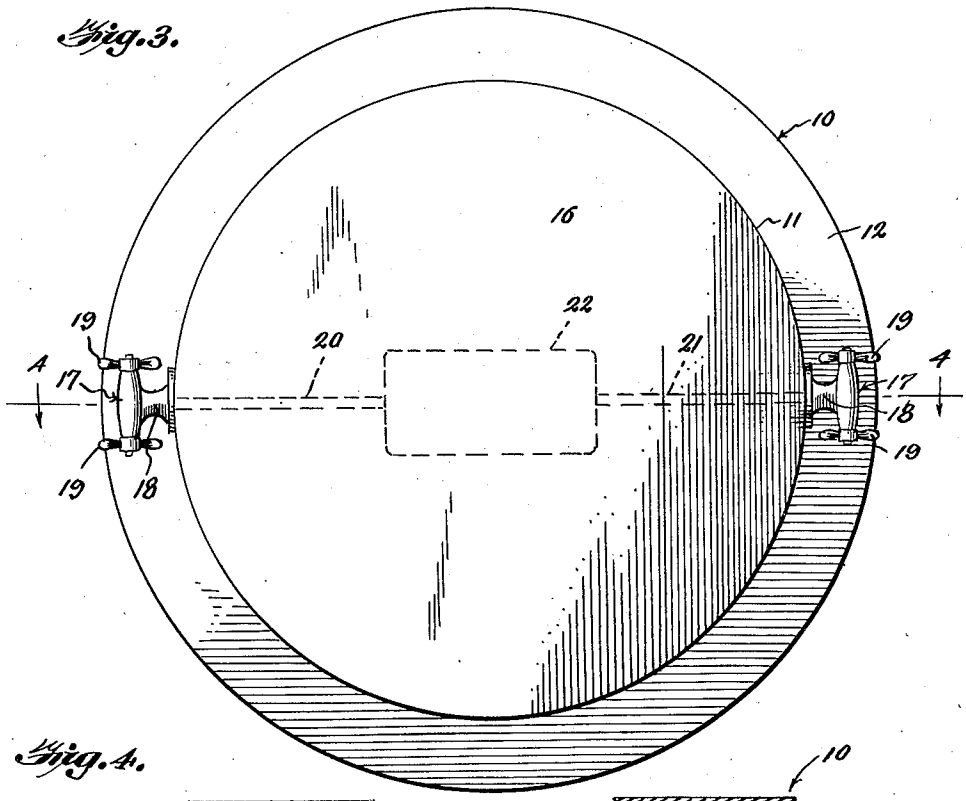

Fig. 4.

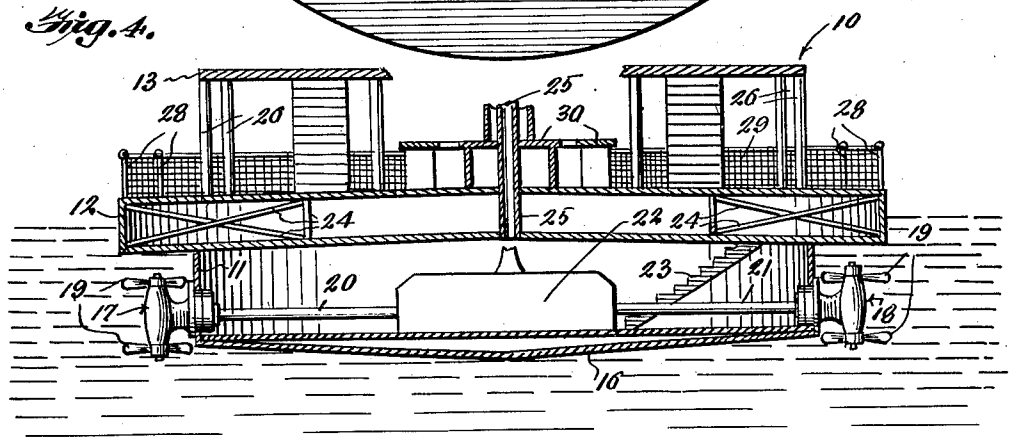

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Fig. 5.

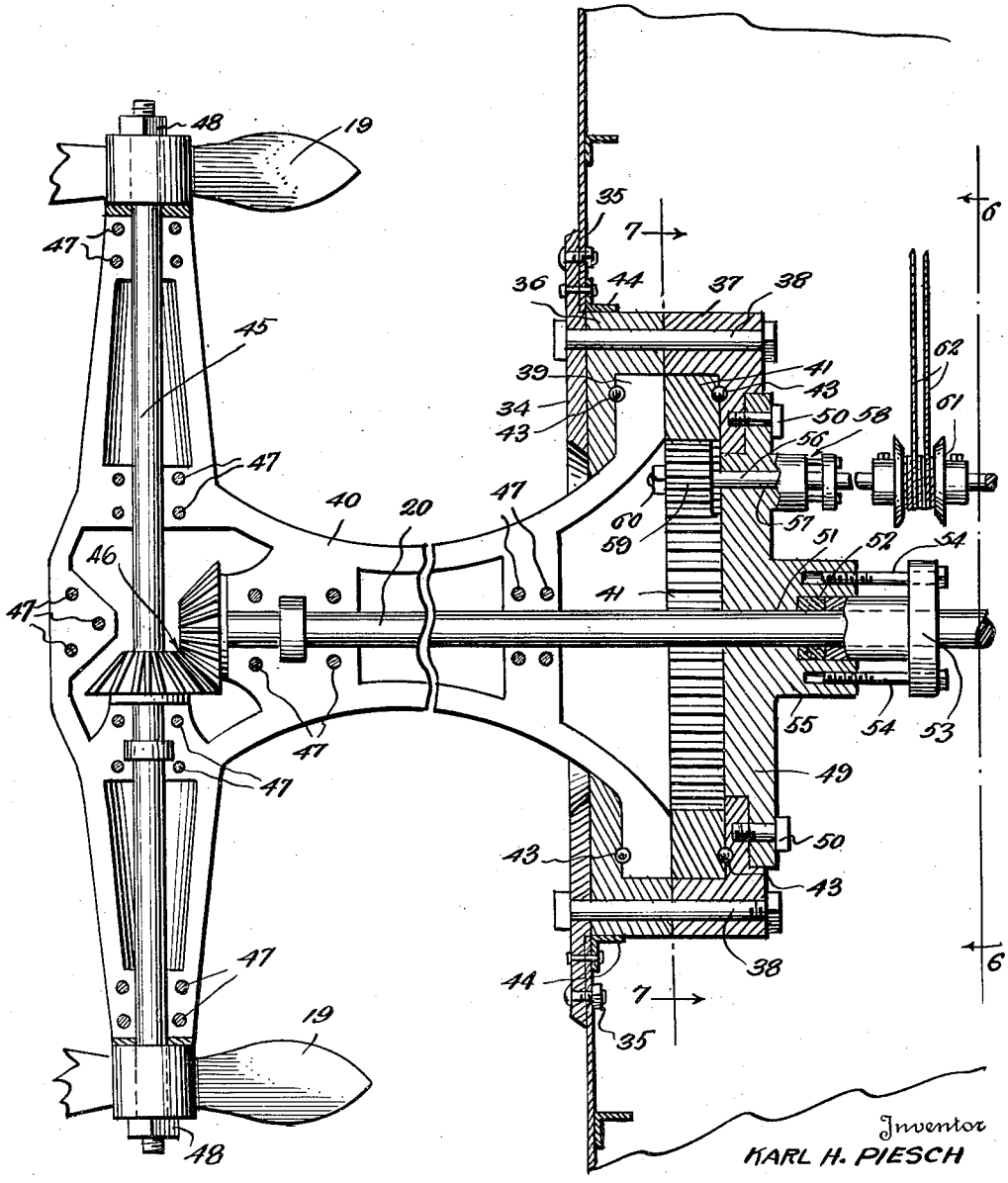

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Fig. 6.

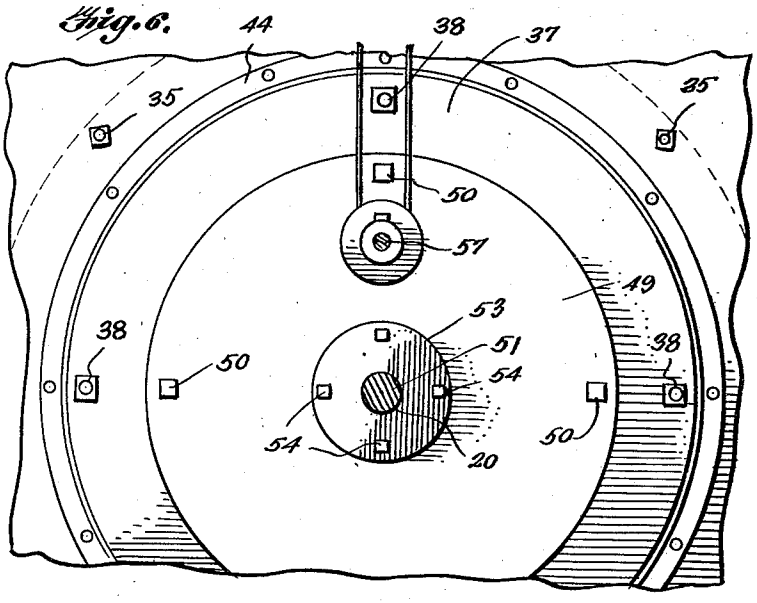
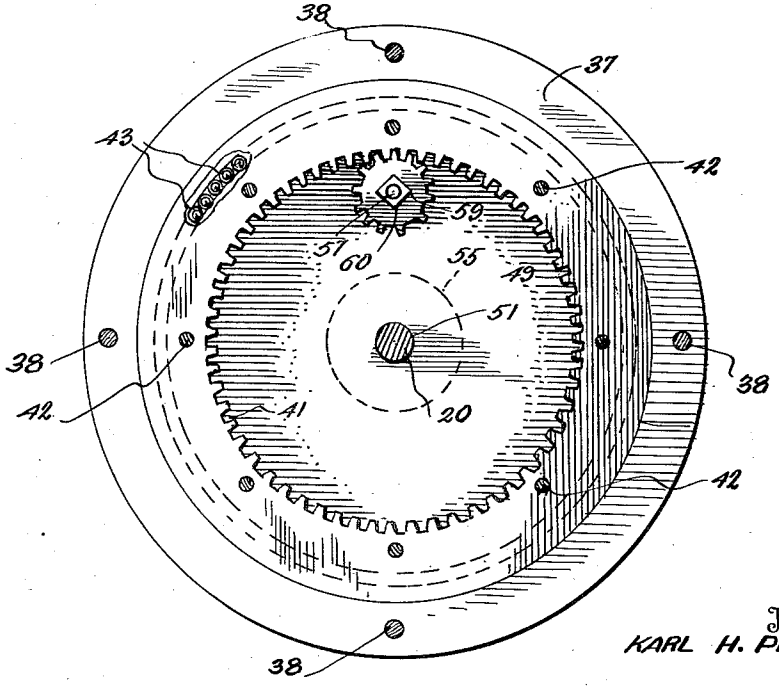


Fig. 7.



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UNITED STATES PATENT OFFICE

2,389,456

MERRY-GO-ROUND ON WATER

Karl H. Piesch, New Orleans, La.

Application January 31, 1945, Serial No. 575,444

9 Claims. (Cl. 272—32)

This invention relates generally to amusement devices and more particularly to a merry-go-round in the form of a vessel of cylindrical configuration adapted to move about in a body of water and having a plurality of decks for the accommodation of pleasure-seeking passengers and having motive means for imparting rotary and transverse movements to the vessel in opposite directions selectively under control of the operator of the vessel.

Still other features and advantages of the present invention are those inherent in or implied from the novel construction combination and arrangement of the parts of a preferred embodiment of the invention as will become more clearly apparent from the following detailed description thereof, reference being had to the accompanying drawings wherein:

Figure 1 is a view in elevation of a merry-go-round constructed in accordance with the best mode thus far devised for a practical application of the principles of the invention,

Figure 2 is a fragmentary sectional view of the merry-go-round of Figure 1 as seen along the line 2—2 thereof and rotated through, ninety degrees,

Figure 3 is a bottom plan view of the merry-go-round shown in Figure 1,

Figure 4 is a fragmentary sectional view taken along the line 4—4 of Figure 3 and showing each of the propeller assemblies turned through ninety degrees into an upright position,

Figure 5 is an enlarged sectional view of a propeller assembly taken substantially along the line 5—5 of Figure 1,

Figure 6 is a view in elevation of a propeller assembly as seen along the line 6—6 of Figure 5, and

Figure 7 is a sectional view of the propeller assembly taken on the line 7—7 of Figure 5.

Referring now to the drawings for a more detailed description of the invention and more particularly to Figure 1 through 4 thereof, the numeral 10 generally designates a merry-go-round which is in the form of a vessel of substantially cylindrical configuration from the hull 11 throughout the plurality of decks 12, 13, 14, and 15 thereof. It will be understood, however, that, if desired, the hull and decks may be formed of any other configuration suitable for the purpose, the cylindrical form being preferred.

The hull 11 is in the form of a large tank or drum to the bottom side of which a plate 16, which tapers downwardly to the center, is secured, the plate thus providing, in effect, a keel by means of which rotary movements of the vessel about its axis is facilitated.

Movement of the vessel is controlled by a pair of propeller assemblies or units 17 and 18, hereinafter to be described in detail, which are pivotally supported in diametrically disposed sidewalls of the hull and comprise propellers 19 adapted to be driven by way of shafts 20 and 21 from a suitable source of power or engine 22 disposed within the hull, the hull and main deck 12 defining an engine room which may be reached from the main deck by way of a suitable stairway 23 extending therebetween.

The main deck 12 is also in the form of a large tank or drum which slopes downwardly from the center and is arranged to project beyond the hull sufficiently to protect the propellers and to obviate the danger of injury to passengers therefrom. Suitable braces or structural members 24 are preferably employed to provide adequate strength for the main deck, and a tubular upright member 25 is provided as a common means of support for the several decks, member 25 in addition also serving as a means of ventilation for the engine room. Additional means of support between the several discs is provided by a plurality of posts 26, and means of communication between adjacent decks is provided by suitable stairways 27 extending therebetween.

Each of the decks is surrounded by a protective railing of any form suitable for the purpose such, for example, as a plurality of posts 28 and wire netting 29 secured thereto. Any of the decks, preferably the main lock which affords the greatest floor space, may be provided conveniently with refreshment counters 30, or the like, with facilities for dispensing various foods and beverages therefrom.

The operator's station also preferably is located on the main deck from whence operation of engine 22 and pivotal movements of the propeller assemblies 17 and 18 are best controlled in maneuvering the vessel 10, a pair of steering wheels 31 and 32 being provided for propeller assemblies 17 and 18 respectively and being spaced relatively close to each other whereby the operator may be seated at a suitable chair or stool 33 and manipulate either of the steering wheels selectively at will.

Referring now to Figures 5, 6, and 7, it will be seen that each of the propeller assemblies 17 and 18, which may be identical, comprises a ring member 34 which is mounted in the side wall of the hull 11 in registered and water-tight engagement with a circular opening therein and is se-

cured to the side wall as by a plurality of bolts 35. A pair of flanged ring members 36 and 37, when secured together as by a plurality of bolts 38 to ring member 34, form a bearing housing for rotatively supporting the flange portion 39 of a shaft casing 40 and an internal ring gear 41 which is secured to flange 39 as by a plurality of screws 42, the flange and gear 41 being freely supported for rotation within members 36 and 37 respectively by a plurality of ball bearings 43 disposed therebetween. A structural member such, for example, as the angular member 44 preferably is employed to rigidly support the bearing housing 36, 37 on the hull 11.

Shaft casing 40 preferably is in the form of a casting, as shown, thereby conveniently to form suitable journals for shaft 20 and a transverse shaft 45 driven thereby through bevel gears 46, and the casing preferably comprises two identical half-sections adapted to be secured together as by a plurality of bolts 47, thereby to facilitate the assembly of the propeller unit, the propellers 19 being locked to shaft 45 for rotation therewith in any conventional manner and being removably secured thereto as by nuts 48 threadedly received on the ends of the shaft.

A circular plate member 49 is received into registered and water-tight engagement with ring member 37 and is secured thereto as by screws 50. Member 49 is provided with a central opening 51 through which shaft 20 passes and which serves as an additional journal therefor, the opening being enlarged to receive a packing washer 52 which is adapted to be forced into contact with the shaft and member 49, thereby to provide a water-tight connection therebetween, compression of the packing washer being accomplished by means of packing member 53 which is arranged to slide along the shaft into contact with the packing washer as bolts 54 carried thereby and threadedly received in the nut portion 55 of plate member 49 are drawn up tight.

Plate member 49 is also provided with a lateral opening 56 within which a shaft 47 is journalled in water-tight relation to the plate member by means of a packing arrangement, generally designated 58, which may be identical to that employed with shaft 20 a pinion gear 59 adapted to mesh with ring gear 41 is locked for rotation with shaft 57 and is removably secured thereto as by a nut 60. Shaft 57 is rotated by a pulley 61 secured thereto, the pulley in turn being driven by steering wheel 31 by means of a suitable belt 62 connected therebetween. Thus, rotary movement is imparted to propeller unit or assembly 17 upon turning the steering wheel 31, and in like manner, it will be understood that rotary movement is imparted to propeller assembly 18 as steering wheel 32 is turned, the propeller units 17 and 18 and the driving connection therefor being identical.

In the operation of the vessel 10, when it is desired to rotate the same about its axis, it merely is necessary to adjust the propeller assemblies such that their propellers rotate in opposite directions, and when it is desired to reverse the direction of rotation, both propeller units are rotated through 180 degrees. When it is desired to move the vessel forward, the propeller units are rotatably adjusted such that their propellers rotate in the same direction and in a direction to move the vessel forward, and to move the vessel bcakward thereafter, it merely is necessary to rotate both propeller units through 180 degrees. When it is desired to make transverse or radial movements other than forward or backward movements such, for example, as to the left or the right, it merely is necessary to rotate one or the other, or a combination of both propeller units sufficiently to obtain movement of the vessel in the desired direction as is best determined by the operator through experience obtained in actually piloting the vessel.

It will occur to those skilled in the art that various devices for the amusement of the passengers may be employed at various locations on the decks of the vessel and that necessary apparatus such, for example, as a gang plank may be provided in a conventional manner.

While but a single embodiment of the invention has been described in particularity, it will be understood that additional embodiments and modifications thereof may be resorted to without departing from the spirit and scope of the invention as defined by the appended claims.

I claim as my invention:

1. In an amusement device of the character disclosed, the combination of a vessel including a hull of substantially tubular configuration, a pair of diametrically disposed propeller units mounted on the hull for pivotal movement about an axis extending diametrically of the hull, each said propeller unit comprising at least one propeller mounted for rotation about an axis, a source of power on the vessel driving connections between said source of power and the propellers of said propeller units, and means operable from an operator's station on the vessel for pivoting said propeller units about said diametrical axis selectively under control of the operator.

2. In an amusement device of the character disclosed, the combination of a vessel including a hull of substantially tubular configuration, a pair of propeller means secured to said hull in diametrically disposed relation therewith for pivotal movement about an axis extending diametrically thereof, a propeller on each of said pair of propeller means, means within the hull for driving the propellers of the pair of propeller means, and means on the vessel for pivotally adjusting the pair of propeller means selectively at will.

3. In an amusement device of the character disclosed, the combination of a vessel including a hull of substantially tubular configuration, a pair of propeller means secured to said hull in diametrically disposed relation therewith for pivotal movement about an axis extending diametrically thereof, a propeller on each of said pair of propeller means, means within the hull for driving the propellers of the pair of propeller means, a deck supported by the hull, a pair of steering wheels on the deck, and driving means interconnecting said pair of propeller means and steering wheels respectively whereby the propeller means may be pivotally adjusted selectively at will by operation of the steering wheels.

4. In an amusement device of the character disclosed, the combination of a vessel including a hull of substantially tubular configuration, a pair of propeller means secured to said hull in diametrically disposed relation therewith for pivotal movement about an axis extending diametrically thereof, a propeller on each of said pair of propeller means, means within the hull for driving the propellers of the pair of propeller means, a deck supported by the hull, a pair of steering wheels disposed in closing spaced relation on the deck, a seat for the operator of the vessel

disposed adjacent to the steering wheels, and driving means interconnecting said pair of propeller means and steering wheels respectively whereby the propeller means may be pivotally adjusted selectively at will by operation of the steering wheels.

5. In an amusement device of the character disclosed, the combination of a vessel including a hull of substantially tubular configuration, a first pair of coaxial shafts extending diametrically through the hull, a second pair of shafts extending transversely of said first pair of shafts at the ends thereof, driving connections between said pairs of shafts, means in the hull for driving said first pair of shafts, a plurality of propellers secured to said pair of transverse shafts, a pair of journal means for each pair of transversely disposed shafts and adapted to house the driving connections therebetween, means for supporting each of said journal means on the hull for pivotal movement about the axis of said first pair of shafts, and means on the vessel for controlling the pivotal movement of the journal means selectively at will whereby various movements may be imparted to the vessel in accordance with the adjustment of the journal means.

6. In an amusement device of the character disclosed, the combination of a vessel including a hull of substantially tubular configuration, first pair of coaxial shafts extending diametrically through the hull, a second pair of shafts extending transversely of said first pair of shafts at the ends thereof, driving connections between said pairs of shafts, means in the hull for driving said first pair of shafts, a plurality of propellers secured to said pair of transverse shafts, a pair of journal means for each pair of transversely disposed shafts and adapted to house the driving connections therebetween, means for supporting each of said journal means on the hull, in watertight relation therewith for rotation about the axis of said first pair of shafts, a deck supported on the hull, a pair of steering wheels disposed in closely spaced relation on the deck and controllable simultaneously and selectively by an operator stationed thereat, and driving connections between said steering wheels and said journal means whereby the journal means may be rotated selectively as either of the steering wheels is rotated.

7. In an amusement device of the character disclosed, the combination of a vessel including a hull of substantially tubular configuration, a first pair of coaxial shafts extending diametrically through the hull, a second pair of shafts extending transversely of said first pair of shafts at the ends thereof, driving connections between said pairs of shafts, means in the hull for driving said first pair of shafts, a plurality of propellers secured to said pair of transverse shafts, a pair of journal means for each pair of transversely disposed shafts and adapted to house the driving connections therebetween, means for supporting each of said journal means on the hull, in watertight relation therewith for rotation about the axis of said first pair of shafts, a ring gear secured to each of said pair of journal means for rotation therewith, a pinion in meshed engagement with said ring gear, a pinion shaft for the pinion gear and secured thereto for rotation therewith, journal means for said pinion shaft supported by said hull in water-tight relation therewith, a deck supported on the hull, a pair of steering wheels disposed in closely spaced relation on the deck and controllable simultaneously and selectively by an operator stationed thereat, and driving connections between said steering wheels and the pinion shafts whereby the journal means may be rotated selectively as either of the steering wheels is rotated.

8. In an amusement device of the character disclosed, the combination of a vessel including a hull of substantially tubular configuration, a pair of propeller means secured to said hull in diametrically disposed relation therewith for pivotal movement about an axis extending diametrically thereof, a propeller on each of said pair of propeller means, means within the hull for driving the propellers of the pair of propeller means, a deck supported by the hull, said deck projecting laterally beyond the hull thereby to protect said propeller means and passengers on the deck, and means on the vessel for pivotally adjusting the pair of propeller means selectively at will.

9. In an amusement device of the character disclosed, the combination of a vessel including a hull of substantially tubular configuration, a first pair of coaxial shafts extending diametrically through the hull, a second pair of shafts extending transversely of said first pair of shafts at the ends thereof, driving connections between said pairs of shafts, means in the hull for driving said first pair of shafts, a plurality of propellers secured to said pair of transverse shafts, a pair of journal means for each pair of transversely disposed shafts and adapted to house the driving connections therebetween, means for supporting each of said journal means on the hull, in watertight relation therewith for rotation about the axis of said first pair of shafts, a ring gear secured to each of said pair of journal means for rotation therewith, a pinion in meshed engagement with said ring gear, a pinion shaft for the pinion gear and secured thereto for rotation therewith, journal means for said pinion shaft supported by said hull in water-tight relation therewith, a pulley on each of the pinion shafts, and drive means between the pulley and said steering wheels whereby said journal means may be rotated selectively as either of the steering wheels is rotated.

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