

Dec. 13, 1932.

E. CORRADINO  
MECHANICAL FLOATING DEVICE

1,890,970

Filed Aug. 22, 1931

3 Sheets-Sheet 1

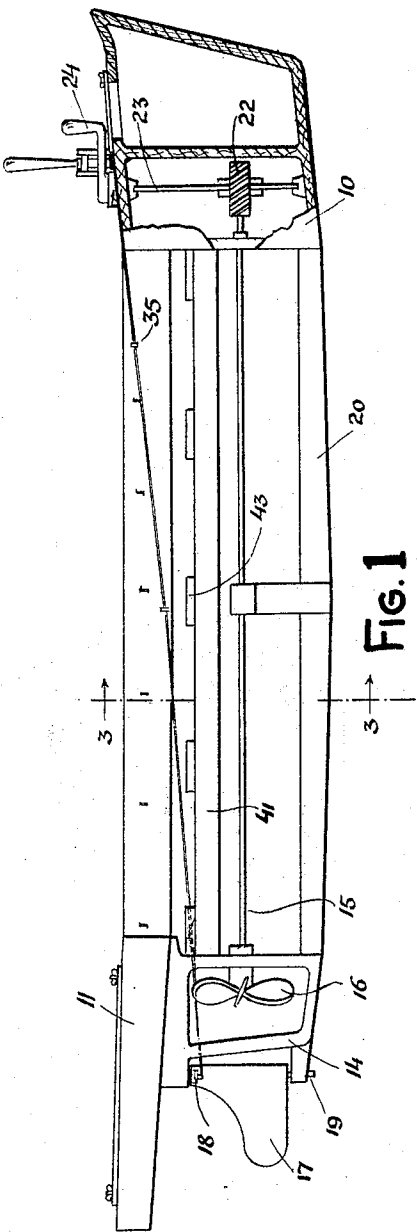


FIG. 1

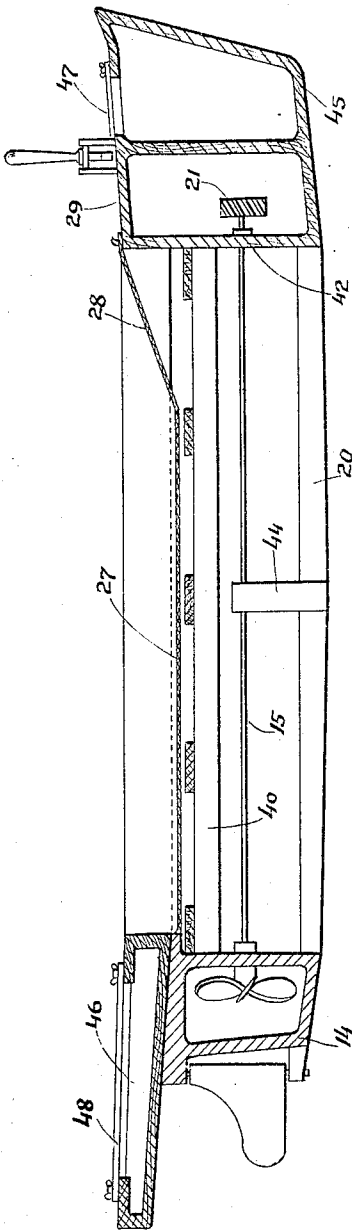


FIG. 2

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Dec. 13, 1932.

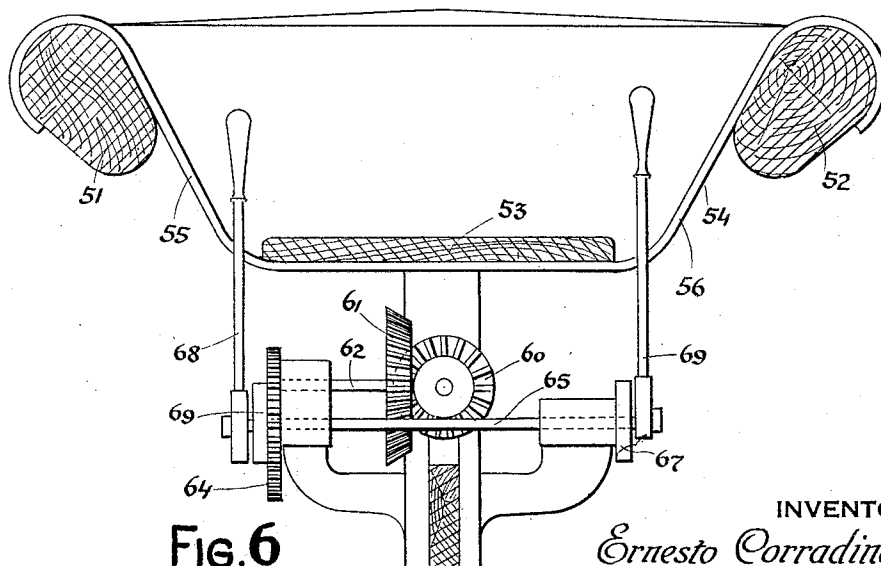
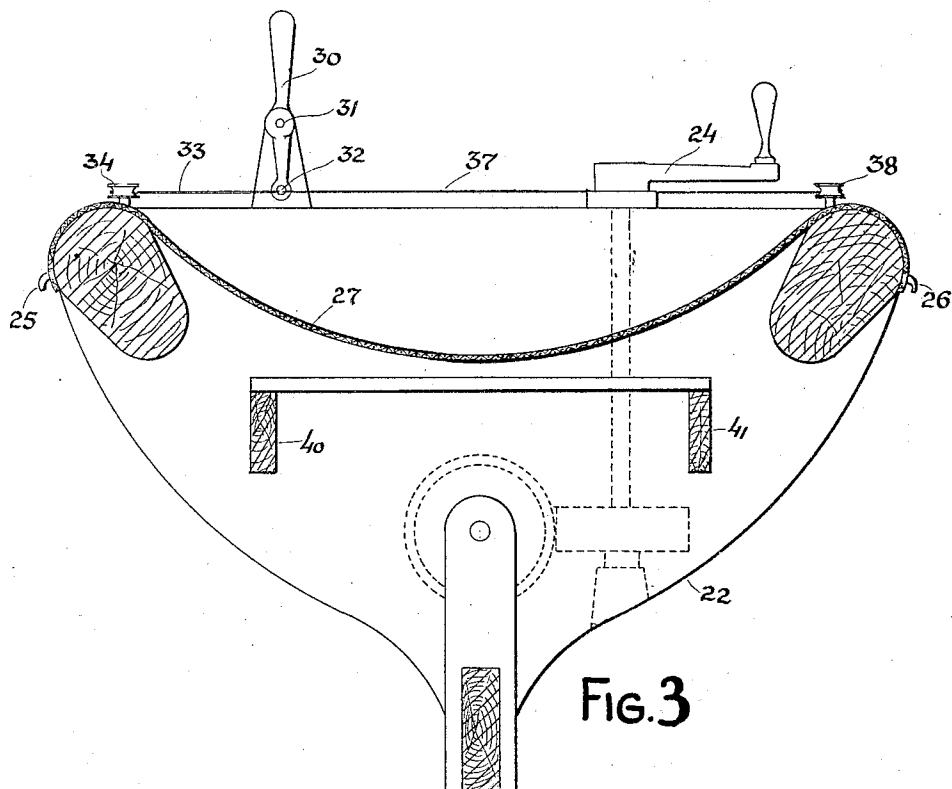
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## MECHANICAL FLOATING DEVICE

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3 Sheets-Sheet 2



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Dec. 13, 1932.

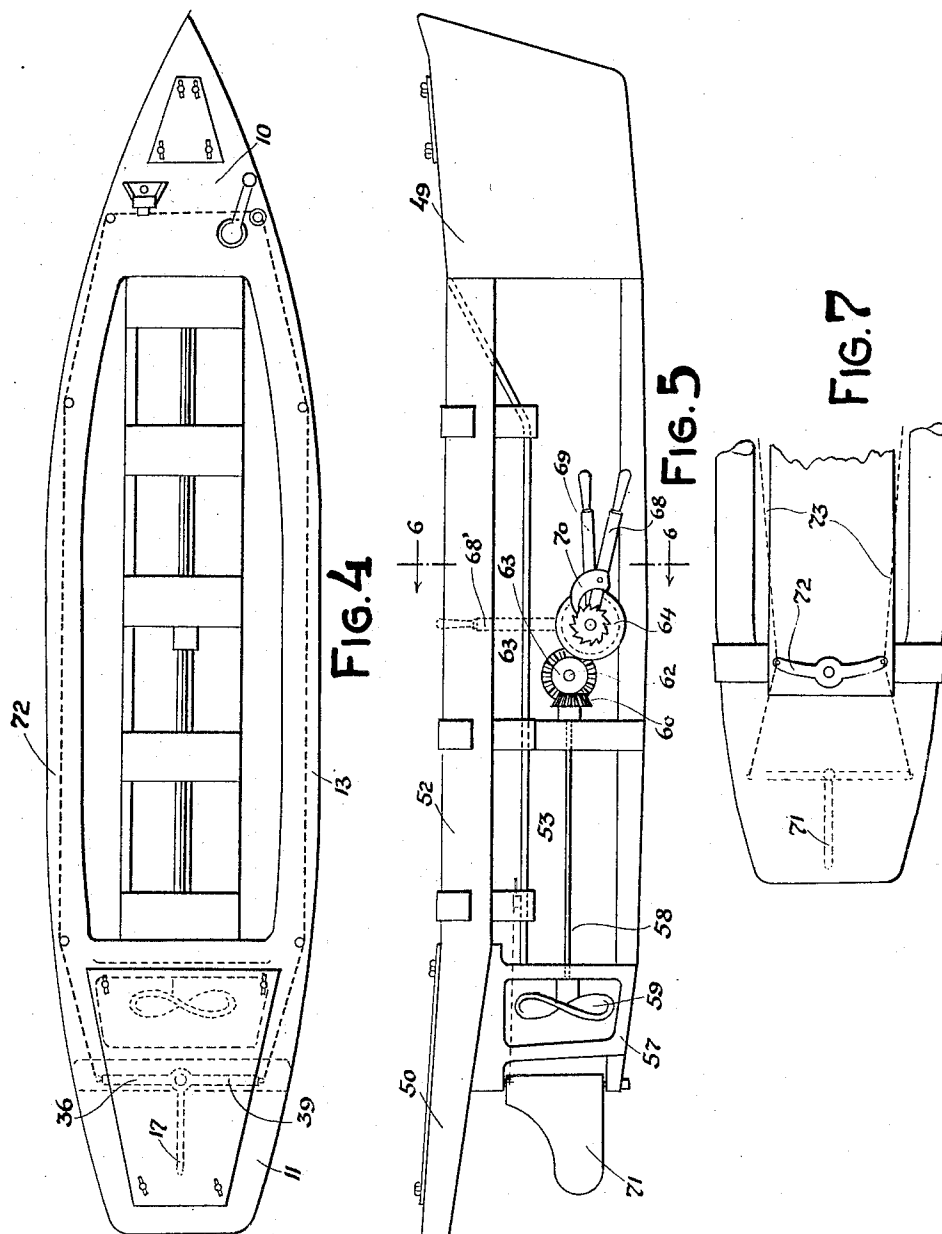
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MECHANICAL FLOATING DEVICE

Filed Aug. 22, 1931

3 Sheets-Sheet 3



INVENTOR  
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## UNITED STATES PATENT OFFICE

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## MECHANICAL FLOATING DEVICE

Application filed August 22, 1931. Serial No. 558,697.

This invention relates to floating devices and more particularly refers to improvements in aquatic devices of the type adapted to support a person upon the surface of the water, and equipped with means operable by the occupant thereof for propelling it and steering it around.

Aquatic devices provided with a hand operable propelling mechanism are not in a broad sense new. Such devices as have come to my notice however are more or less subject to various limitations which necessarily restrict their use and value as means of indulging in aquatic sports and also as means useful for life saving purposes.

The primary object of this invention is to provide a floating device adapted to support the body of a person, which is stable and non-sinkable and which can be conveniently propelled and steered by its occupant while permitting the body of said occupant being submerged in the water.

Another object is to provide a device of the character specified, equipped with propelling means which may be operated by the occupant of the device either in a prone or in a sitting position.

A further object of the invention is to provide an open bottom boat shaped floating device equipped with propelling means operable by its occupant, said device providing a support for its load all around and being adapted to support more than one person if desired.

A still further object is to provide a device of the character specified, provided with water tight compartments, adapted to carry a supply of water and other provisions adapted for the sustenance or aid of drowning persons or persons stranded in the water.

Other objects and advantages of the present invention will more fully appear as the description proceeds and will be set forth and claimed in the appended claims.

My invention is illustrated by way of example in the accompanying drawings in which:

Fig. 1 is a side view in elevation of a floating device embodying my invention;

Fig. 2 is a longitudinal vertical section thereof;

Fig. 3 is a transversal section of the same in an enlarged scale along line 3—3 of Fig. 1;

Fig. 4 is a plan view of the same;

Fig. 5 is a side elevation of a floating device embodying my invention in a somewhat different form;

Fig. 6 is a cross sectional view of the same in an enlarged scale across line 6—6 of Fig. 5; and

Fig. 7 is a detail plan view of the rear end of said device showing a steering lever controllable by the feet of the occupant of the device.

Referring to Figs. 1 to 4, it will be seen that my device has the outline of a boat and comprises a bow portion 10, a stern 11 and two longitudinal buoyant rim members extending therebetween and forming therewith an open center boat-rim shaped structure capable of floating upon the water.

A skeleton frame 14 extends downwardly from the stern and provides a support for the rear end of a propeller shaft 15 carrying a propeller 16 and for the rudder 17 pivotally mounted at 18, 19.

The lower end of skeleton frame 14 is connected to the lower end of the bow portion by a keel 20. The propeller shaft 15 extends all the way to the front and within the bow 10 and carries at its front end a helical pinion 21 which is in mesh with a helical gear wheel 22 carried by vertical shaft 23.

The upper end of shaft 23 projects above the upper surface of the bow and is equipped with a crank lever 24 by means of which it can be operated to drive the propeller.

Between the two rim sections 12, 13 I provide a preferably flexible platform which is detachably connected at 25, 26 to said rim sections and which is preferably formed by a horizontal portion 27 and a front inclined portion 28 adapted to support the front part of the body of the occupant in an upwardly inclined position so that the shoulders and head will remain above the level of the upper surface of the device.

When the occupant of the device lies prone upon the platform formed by sections 27, 28

he can therefore rest his left elbow upon the upper surface 29 of the bow and operate the crank lever 24 by means of his right hand. Within convenient reach of the left hand, I preferably provide also a steering lever 30 pivoted at 31 and movable transversely of the device. The lower end of said lever is attached at 32 to a continuous cable, one strand of which 33 is directed by means of pulley 34 and eyes such as 35 to one of the cross arms 36 of the rudder 17 while the other strand 37 is directed by pulley 38 and other eyes 35 to the other cross arm 39 of the rudder. It is therefore possible for the occupant of the device not only to drive the propeller so as to cause the device to travel in water, but also to control the rudder so as to steer its movements.

By virtue of this arrangement the occupant of the device can have his body entirely submerged in water so as to derive the advantages and enjoyment of a bath while indulging in healthful exercise and moving about in perfect safety even though he may be totally ignorant of swimming.

The structure thus described is preferably completed by providing two longitudinal transversely spaced members 40, 41, extending between skeleton frame 14 and the inner surface 42 of the stern and one or more longitudinally spaced cross members such as 43 supported by said longitudinal members 40, 41, and forming an open frame with the rest of the structure. Cross members 43 provide a seat or seats for the occupant of the device when platform 27—28 is removed.

It is also possible of course for the occupant to sit upon the front end of the section 27 facing the front of the boat if section 28 only is removed or folded over section 27. In this position the person can lean forward and rest an elbow upon the upper surface 29 of the bow and operate the device as heretofore explained. The propeller shaft 15 is preferably supported midway of its end by a bracket 44 upwardly extending from the keel 20.

If desired, the device may be made capable of holding supplies of water and provisions and to this end the bow and the stern are shown formed with chambers 45, 46 respectively, said chambers being normally closed by covers 47, 48.

From the foregoing, it will be seen that I provide a perfectly stable floating device which may be used not only for pleasure but also for life saving purposes if desired, and which can be operated by its occupant either lying prone upon the platform or in a sitting posture.

My invention may be carried into practice in ways other than that just described. For instance, in Figs. 5 to 7, I show a somewhat similar structure comprising a bow 49, stern 50, and two buoyant longitudinal rim members 51, 52 extending therebetween, forming

an open center structure therewith. Instead of a removable flexible platform, the device is provided with a permanent rigid platform 53 supported by cleats 54 depending from rim members 51, 52, and forming longitudinal open spaces 55, 56, with said rim members. The occupant can either lie prone upon said platform or else he can sit astride upon it, as he may desire.

The device is shown equipped with a propelling mechanism which calls for a motion of the arms similar to that employed in rowing, said mechanism being operable either when the occupant is prone upon the platform or when he is sitting astride thereof.

Like in the previous case, a skeleton frame 57 extends downwardly from the bow and provides a support for the rear end of propeller shaft 58 carrying a propeller 59. The front end of propeller shaft 58 carries a conical pinion 60 in mesh with a gear 61, mounted on a shaft 62 carrying another pinion 63. Pinion 63 is in mesh with and is driven by a gear 64 which is mounted on a cross shaft 65 provided at its ends with ratchet wheels 66, 67. Loosely mounted at each end of shaft 65 are provided operating levers 68, 69 each having a dog 70 adapted to engage the teeth of its respective ratchet wheel 66 or 67.

Fig. 5 shows the device in a position where operating lever 68, 69 are substantially horizontal, extending frontwardly of shaft 65 so that the same can be operated by the arms of the occupant hanging down when the occupant is prone upon platform 53. If the occupant should choose to sit upon the platform he can shift the operating levers to an upwardly extending position such as shown in dotted lines at 68', and he can therefore actually operate the propeller by movements to those employed in rowing.

The device can also in this case be equipped with a rudder 71 which may be operated by means of a foot lever 72 against which the feet of the occupant may rest when the occupant is prone upon the platform. Lever 72 can also be operated by the feet of the occupant when the occupant is sitting astride the platform by causing the feet to operate bars or cables 73, frontwardly extending from the arms of lever 72, in any suitable manner.

The constructional details of my invention may vary from those shown without departing from the inventive idea. The drawings will therefore be understood as being intended for illustrative purposes only and not in a limiting sense. Accordingly, I reserve the right to carry my invention into practice in all those ways and manners which may enter, fairly, into the scope of the appended claims.

I claim:

1. A mechanical floating device comprising a bow section, a stern section, buoyant

boat rim sections extending therebetween, forming a rigid open center boat-shaped frame therewith, a passenger carrying frame downwardly spaced from said rim sections, also extending between said bow and stern sections, a propeller carrying shaft longitudinally extending underneath said passenger carrying frame, and means operable by the occupant for actuating said shaft.

2. A mechanical floating device comprising a hollow bow section, a hollow stern section, buoyant boat rim sections extending therebetween, forming a rigid open center boat-shaped frame therewith, a passenger carrying frame downwardly spaced from said rim sections, also extending between said bow and stern sections, a propeller carrying shaft longitudinally extending underneath said passenger carrying frame, and means operable by the occupant for actuating said shaft.

3. A mechanical floating device comprising a hollow bow section, a hollow stern section, buoyant boat rim sections extending therebetween, forming a rigid open center boat-shaped frame therewith, a passenger carrying frame downwardly spaced from said rim sections, also extending between said bow and stern sections, a propeller carrying shaft longitudinally extending underneath said passenger carrying frame, means operable by the occupant for actuating said shaft, and a rudder, also operable by the occupant, for steering said device.

4. A mechanical floating device comprising an open center buoyant boat-rim shaped frame, a passenger carrying frame associated with and downwardly spaced from said frame, a propeller carrying shaft longitudinally extending underneath said passenger carrying frame, a transverse actuating shaft therefor also downwardly spaced from said passenger carrying frame, a driving transmission interposed between said two shafts, two oar-like members pivotally mounted one at each end of said transverse shaft, and a unidirectionally operative connection between each oar-like member and said transverse shaft, said passenger carrying frame forming with said boat-rim shaped frame openings through which the arms of the occupant, lying prone upon said passenger carrying frame, can downwardly extend to operate said oar-like members.

5. A mechanical floating device comprising a hollow bow section, a hollow stern section, buoyant boat rim sections extending therebetween, forming a rigid open center boat-shaped frame therewith, a passenger carrying frame downwardly spaced from said rim sections, also extending between said bow and stern sections, a propeller carrying shaft longitudinally extending underneath said passenger carrying frame, a transverse actuating shaft therefor also downwardly spaced

from said passenger carrying frame, a driving transmission interposed between said two shafts, two oar-like members pivotally mounted one at each end of said transverse shaft, and a unidirectionally operative connection between each oar-like member and said transverse shaft, said passenger carrying frame forming with said boat-rim sections, openings through which the arms of the occupant, lying prone upon said passenger carrying frame, can downwardly extend to operate said oar-like members.

6. A mechanical floating device comprising a hollow bow section, a hollow stern section, buoyant boat rim sections extending therebetween, forming a rigid open center boat-shaped frame therewith, a passenger carrying frame downwardly spaced from said rim sections, also extending between said bow and stern sections, a propeller carrying shaft longitudinally extending underneath said passenger carrying frame, a transverse actuating shaft therefor also downwardly spaced from said passenger carrying frame, a driving transmission interposed between said two shafts, two oar-like members pivotally mounted one at each end of said transverse shaft, a unidirectionally operative connection between each oar-like member and said transverse shaft, said passenger carrying frame forming with said boat-rim sections, openings through which the arms of the occupant, lying prone upon said passenger carrying frame, can downwardly extend to operate said oar-like members, and a rudder, also operable by the occupant, for steering said device.

In testimony whereof I affix my signature.  
ERNESTO CORRADINO.

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