June 13, 1939. R. SQUIER 2,162,134

FLOAT

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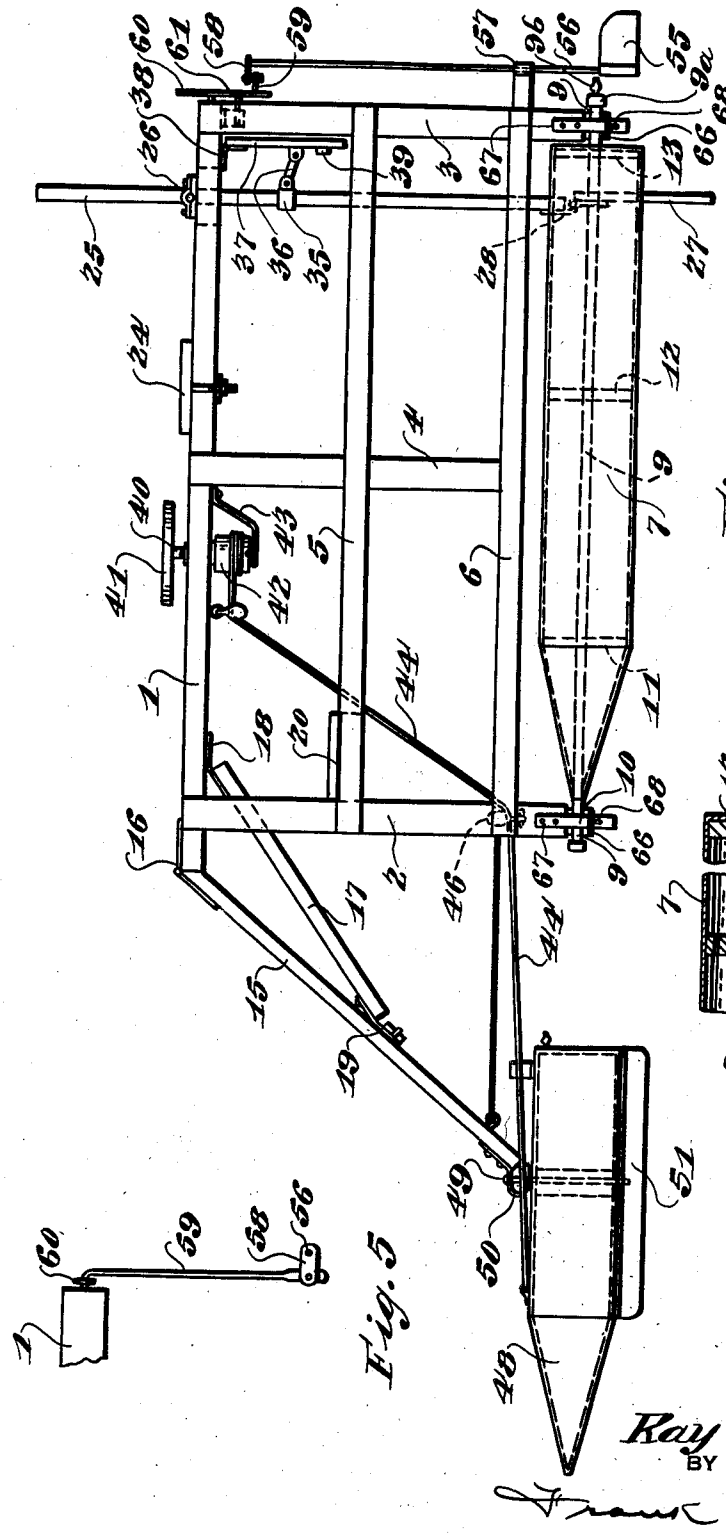


Fig. 1

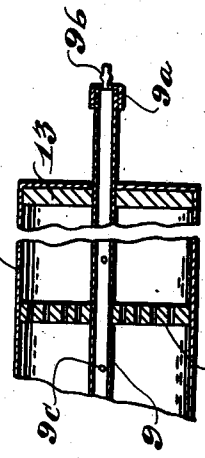


Fig. 4

Fig. 5

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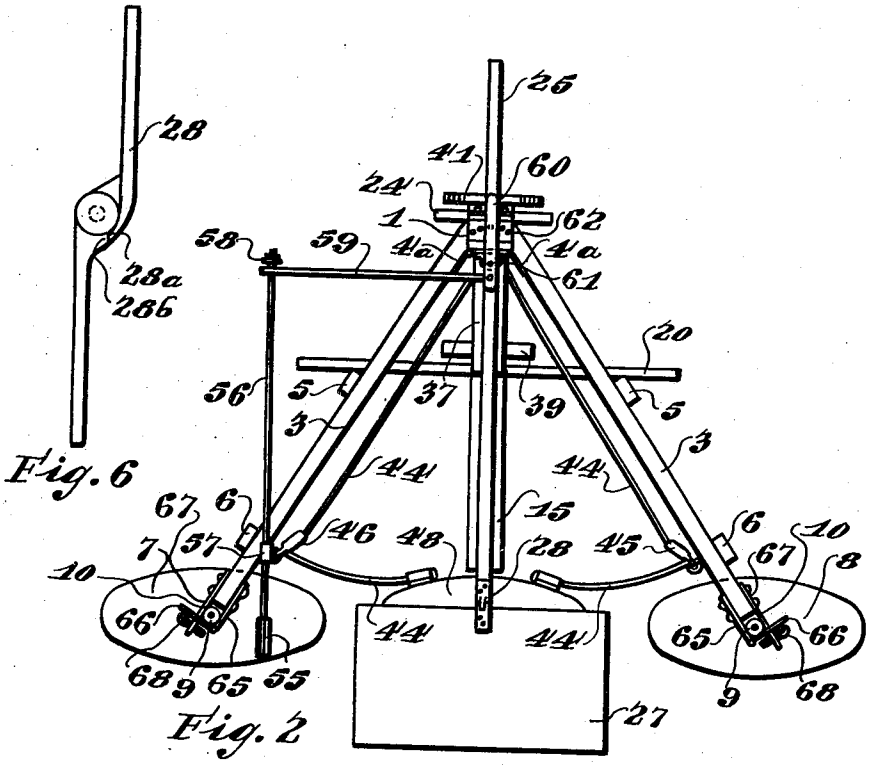


Fig. 6

Fig. 2

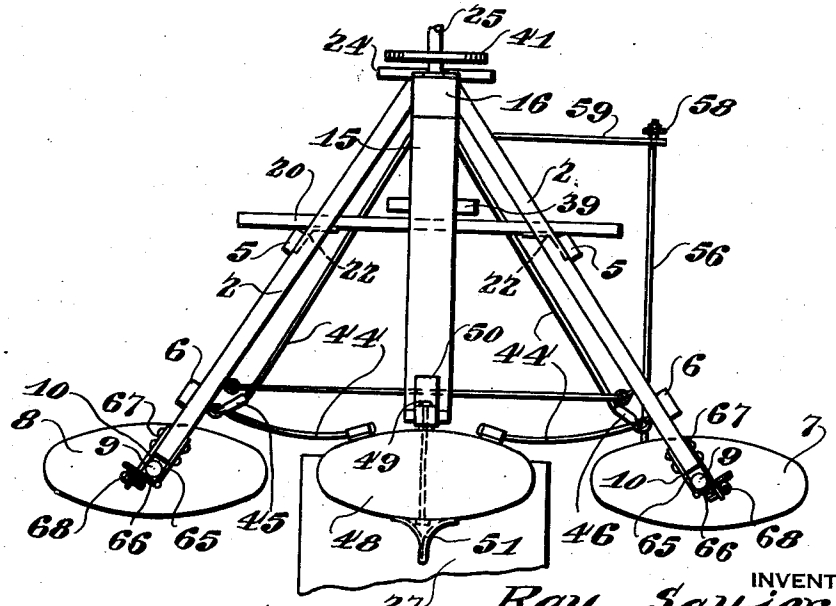


Fig. 3

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FLOAT

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Application August 2, 1937, Serial No. 156,846

8 Claims. (Cl. 115—22)

The object of this invention is to provide a new and improved watercraft or float that can be used instead of a boat.

Another object of the invention is to provide a watercraft that is supported in water by the use of a plurality of oval-shaped floats.

Another object of the invention is to provide a craft that has a frame carrying a driver's seat that is supported several feet above the water.

Another object of the invention is to provide a craft that is propelled by an oar that works centrally in the craft and not on either side of the craft.

Another object of the invention is to provide a craft that can be steered by the swinging of one of the floats.

Another object of the invention is to provide a craft that can be folded up into a compact space.

These and other objects of the invention will be illustrated in the drawings, described in the specification, and pointed out in the claims at the end thereof.

In the drawings:

Figure 1 is a side elevation of the craft.

Figure 2 is an end elevation of the craft looking at it from the right hand end of Figure 1.

Figure 3 is an end elevation of the craft looking at it from the left hand end of Figure 1.

Figure 4 is an enlarged detail view of the right hand end of the pontoon shown at the lower right hand corner of Figure 1.

Figure 5 is a detail view of the rudder connection.

Figure 6 is a detail view of the hinge that is used in the oar.

In the drawings like reference numerals indicate like parts.

In the drawings reference numeral 1 indicates a beam that runs longitudinally at the top of the craft. On this beam is hinged a pair of arms 2, 2 at the front and arms 3, 3 at the rear. The upper ends of these arms are beveled where they contact with the beam to correspond with the correct position of the arms when the arms are spread out. The hinges are indicated at 4, 4 in Figure 2. These arms 2 and 3 on each side are connected by the bars 5 and 6, which bars extend lengthwise, which bars are connected at an intermediate point by an arm 4 which is hinged to the beam 1 in the same manner as are the arms 2 and 3. Because of the hinge connections, the arms 3,3, the arms 2,2, and the arms 4, 4 can be drawn together at the same time, thus reducing the spread between the pontoons and making the device more compact.

At the lower end of the arms 2 and 3 is connected on each side the pontoons 7 and 8. Each of these pontoons has a bar or tube 9 that extends the whole length of it and projects beyond each end, to which the pontoon is fastened by a watertight joint. This bar is carried in bearings 10 in which it can rock so that the pontoon can adapt itself to the waves in the water. This makes the craft ride easier and gives the waves less chance to wash over or slap the pontoons.

Inside of the pontoon is provided braces 11, 12 and 13. One of these braces is shown on a large scale in Figure 4. The pontoon is sealed up all around, so that water cannot get into it, but to detect a leak and reduce the possibility of leaks it is desirable to put the air inside of the pontoon under a low pressure, and if leak occurs the air bubbles will show themselves coming up through the water. By having the air under pressure, the leaking of water into the pontoon is either prevented or greatly reduced.

To permit the air to flow from one end of the pontoon to the other, the braces 13 have perforations in them at various intervals as shown in Figure 4. The air is introduced into the pontoon through the pipe 9 which has a cap 9a and an air valve 9b on the end thereof. Air is pumped through this valve 9b into the pipe 9 and passes through the small holes 9c into the pontoon. The air is held therein by the closing of the valve 9b.

At the forward end of the beam 1 is provided an arm 15 which is attached to the beam by the hinge 16. A brace 17 is provided hinged to the beam 1 at 18 and connected to the arm 15 by a strap 19. It will be understood that the arm 15 is beveled where it comes into contact with the beam 1, similar to the arms 2, 3 and 4, so that all these arms normally hold themselves in the desired position when spread apart. A board 20 rests on the arms 2 and forms a seat for the passenger. This board has fastened thereon on the under side angle brackets 22, 22 which engage under the bars 5 and serve to hold the bars apart and hold the seat in place. To collapse the two sides of the float, the seat must be removed.

On the beam 1 is provided a seat 24 for the operator of the float. He sits thereon facing to the right in Figure 1. That is, he faces to the rear the same as he would face in rowing a boat. Immediately in front of him is placed the handle 25 of the oar which is pivoted in bearings 26. At the bottom of the oar 25 is fastened a blade 27 which is connected to the oar by a hingle 28, so that the blade can swing on the oar. This per-

mits the blade or paddle **27** to trail in the water on the idle stroke when the operator is recovering the oar, so to speak. On the power stroke, however, it is necessary to cause the blade **27** to react on the water.

To secure this result I use the hinge shown in Figure 6, the upper part of the hinge being fastened to the oar **25** and the lower part of the hinge fastened to the blade **27**. The hinge has a shoulder **28***a* on the upper leaf that engages with the corresponding shoulder **28***b* on the lower leaf. These shoulders come in contact when the operator pulls the oar **25** toward him on the power stroke, and in such position the hinge holds the blade of the oar in line with or parallel to the oar itself, but when the operator pushes the oar away from him on the idle or return stroke, then the lower leaf of the hinge can swing free with the blade as it trails through the water. On the power stroke of the oar the shoulders engage again and hold the blade securely so that the muscular effort of the rower is communicated to the water through the blade, which in that case is rigid with the oar.

On the oar **25** is a collar **35** clamped thereon. A link **36** connects this collar to the swinging arm **37** hinged at **38** to the bar **1**. On the arm **37** is a cross-bar **39**, on which the feet are adapted to rest and by which the oar can be driven by moving the feet and legs. An upright shaft **40** is provided which is swiveled in the beam **1**. On top of this shaft is a steering wheel **41**. On the bottom of the shaft is a drum **42**. The drum and shaft **40** are held in place by the bracket **43**. Fastened to the drum **42** is the steering rope **44** which passes under pulleys **45** and **46**. This rope **44** is fastened to the forward end of the float **48**, which float is swiveled at **49** on a bracket **50** on the forward end of the arm **15**. On the bottom of the float **48** is provided the web or fin **50** which cuts the water and helps to make the float act as a rudder by which the float is steered.

For the purpose of also helping to steer the craft, I provide a rudder **55** keyed on the upright shaft **56**, which is swiveled in a bearing **57**. On top of the shaft **56** is keyed an arm **58**. At the forward end of this arm is connected a link **59**. The opposite end of the link is moved by a lever **60** pivoted at **61** on a bracket attached to the beam **1**. A series of holes **62** is provided in the end of the beam, by which the lever **60** can be pinned in any one of several positions for the purpose of holding the rudder in a fixed position.

On the bottom of the arms **2** and **3** is provided a connection which holds the pontoon in place thereon, which permits the pontoon to be disconnected and removed. This connection is described as follows: On the under side of the arms is provided a hinge **65** having a leaf **66**. On the upper side of the arms **2** and **3** is provided a strap **67**. The pipe that carries the pontoon is inserted between the stationary leaf of the hinge **65** and the strap **67**, which strap is made narrow. The leaf **66** is wide and has a slot therein that is adapted to receive the free end of the strap **67**. The shaft **9** is placed between the strap **67** and the stationary leaf of the hinge **65**, and the leaf **66** is swung up into engagement with the lower end of the strap **67**. The leaf **66** is then fastened in this position by inserting a cotter pin **68** in a hole provided in the strap for that purpose.

I claim:

1. A float comprising a central horizontal beam, one-piece swinging arms projecting on each side of said beam and extending outwardly and downwardly therefrom, pontoons swiveled on a horizontal axis between the ends of said arms on each side of said beam and parallel thereto.

2. A float comprising a central horizontal beam, one-piece swinging arms projecting on each side of said beam and extending outwardly and downwardly therefrom, pontoons swiveled on a horizontal axis between the ends of said arms on each side of said beam and parallel thereto, said pontoons having an oval-shaped cross section.

3. A float comprising a central horizontal beam, one-piece swinging arms projecting on each side of said beam and extending outwardly and downwardly therefrom, pontoons swiveled on a horizontal axis between the ends of said arms on each side of said beam and parallel thereto, said pontoons being filled with air above atmospheric pressure.

4. A float comprising a central horizontal beam, one-piece swinging arms projecting on each side of said beam and extending outwardly and downwardly therefrom, pontoons swiveled on a horizontal axis between the ends of said arms on each side of said beam and parallel thereto, an arm extending forwardly and downwardly from said beam, a pontoon swiveled on the lower end of said arm, said pontoon extending normally in line with the beam, and means for turning said pontoon on a vertical axis for the purpose of steering the float.

5. A float comprising a central horizontal beam, arms projecting on each side of said beam and extending outwardly and downwardly therefrom, pontoons fastened on the ends of said arms on a horizontal axis between each side of said beam and parallel thereto, an oar pivotally mounted on the central beam and extending above and below said beam, a blade on the lower end of said oar, said blade engaging the water between the pontoons, a hinge connecting the blade and oar together, said hinge holding the blade in line with the oar when moved in one direction and allowing the blade to swing rearwardly when moved in the other direction.

6. A float comprising a central horizontal beam, one-piece swinging arms projecting on either side of said beam and extending outwardly and downwardly therefrom, said arms being hinged to the beam and being adapted to be brought together above the beam.

7. A float comprising a central horizontal beam, one-piece swinging arms projecting on either side of said beam and extending outwardly and downwardly therefrom, said arms being hinged to the beam and being adapted to be brought together above the beam, an arm extending forwardly and downwardly from said beam, said arm being hinged to the beam and being adapted to be raised above the beam.

8. A float comprising a central horizontal beam, one-piece swinging arms projecting on each side of said beam at one end thereof, a bearing supported from one of said arms, an upright shaft mounted to turn in said bearing, a rudder on the bottom of said shaft, an arm at the top of said shaft, a lever pivoted on the beam, a link connecting the end of said arm to the lower end of said lever by which the shaft and rudder can be turned.

RAY SQUIER.