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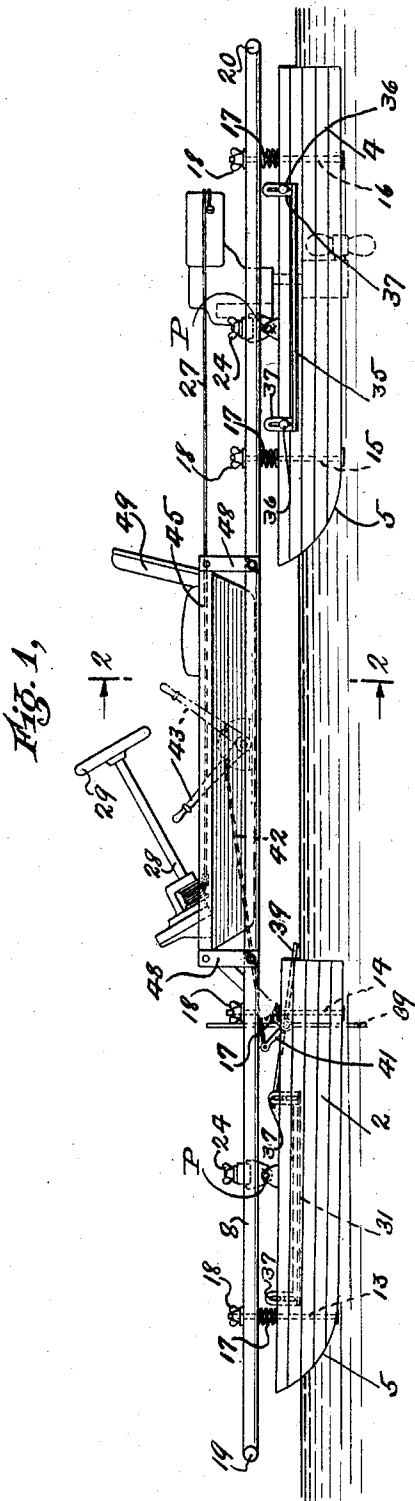
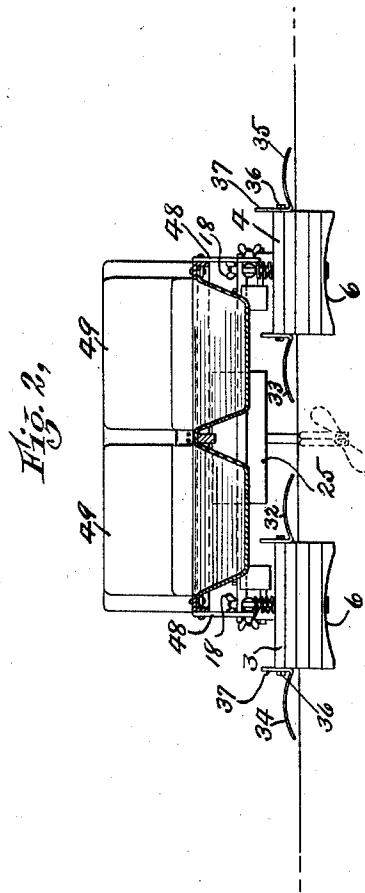
W. ADELMANN

1,738,979

BOAT

Filed Oct. 24, 1923

2 Sheets-Sheet 1



INVENTOR.

William Adelman.
BY
Kiddle, Morgan & Hornidge
ATTORNEYS.

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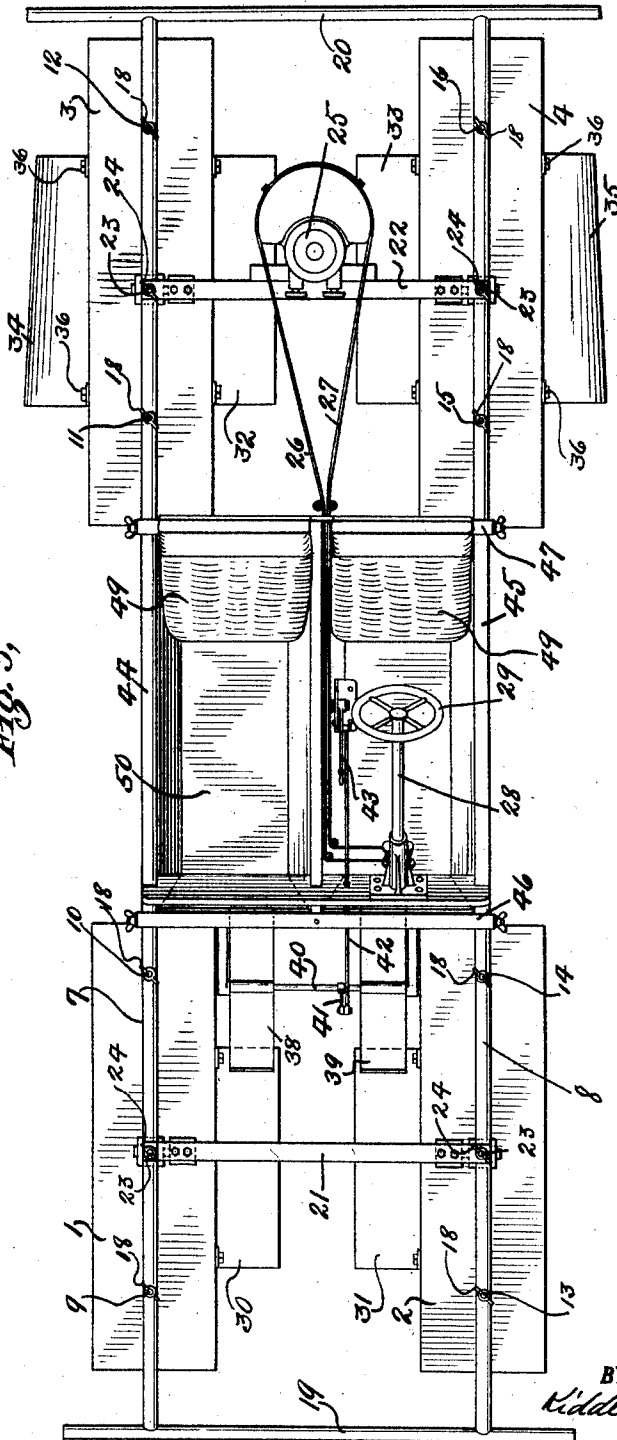
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Fig. 3,



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UNITED STATES PATENT OFFICE

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BOAT

Application filed October 24, 1928. Serial No. 314,672.

The present invention relates to an improvement in boats, and has for one of its objects the provision of a boat of simple and novel construction, care being taken at the same time to provide a structure or construction which will be absolutely safe, my improved boat being intended primarily for pleasure purposes.

A further object of my invention is the provision of a boat of the "knock down" type, the same being constructed so that it may be taken down very quickly and the parts stowed in an automobile, for example, and as quickly assembled again.

In general, my invention provides a boat comprising four floats, two at the forward part of the structure and two at the rear, a frame of light metal, such as aluminum tubing, for example, being attached detachably to these floats, whereby the floats and frame may be assembled or "knocked down" very quickly.

Intermediate the two sets of floats I provide a seating and control arrangement very simple in construction and readily detachable. This seating and control arrangement may also be very quickly assembled as a unit.

In addition to all of the foregoing, I provide for causing the front end of the boat to rise or lift as the speed of the boat increases, additional apparatus for effecting this result being provided and controlled from the operator's seat. This last mentioned apparatus is useful as braking mechanism in bringing the boat to rest.

I have also provided for reducing as far as possible excessive heeling of the boat, this apparatus being automatic in operation and requiring no attention on the part of the operator.

Other and further novel features of the invention will be pointed out hereinafter.

In the accompanying drawings, wherein I have illustrated an embodiment of my invention, Fig. 1 shows the same in side elevation;

Fig. 2 is a section taken on the line 2—2 of Fig. 1; and

Fig. 3 is a plan view.

Referring to the drawings in detail, my improved structure comprises four floats 1, 2, 3

and 4, the floats 1 and 2 being mounted at the forward part of the boat and 3 and 4 at the rear. These four floats constitute the buoyant members of the boat.

Various materials may be employed in the makeup of the floats but in any event the floats are, in accordance with my invention, constructed of solid material made up of one piece or laminated as desired, as distinguished from air-filled pontoons. This is for safety purposes, pontoons when punctured allowing the pontoons to fill and the boat to sink, whereas puncturing or injury to one or even all of the floats of my structure will not materially affect the buoyancy of the craft.

The material which I prefer to employ is balsa wood, although the floats may be constructed of cork sheets. As a matter of fact other woods are suitable, balsa and cork being mentioned merely by way of example. I have shown each float as made up of laminations, although as above mentioned they may be formed out of the one piece, both forms, however, coming within the expression "solid structure."

For the purpose of insuring a speedy construction without necessitating the use of a powerful power plant, I prefer to cut back the forward end of each float, as indicated at 5. In addition to this and for the purpose of causing the floats to plane when moving forward, I concave the bottom of each float, as shown at 6 in Fig. 2, the concave portion extending as will be understood, longitudinally of the floats.

Extending lengthwise of the entire structure and overlying the floats 1, 2, 3 and 4 are side frame members 7 and 8, one at each side of the structure. As above mentioned, these members may be made of very light weight material, such as aluminum tubing, for instance. The frame member or side frame piece 7 is secured to the forward float 1 and rear float 3 by bolts 9, 10 and 11, 12, respectively, while the side frame member 8 is secured to the forward float 2 and rear float 4 by bolts 13, 14 and 15, 16, respectively. These bolts pass down through the floats, and not only do they secure the side frame members in place, but they also secure the laminations

of the floats to each other, as will be understood from an inspection of Fig. 1 of the drawings.

For the purpose of reducing the shock of the waves striking the floats when the boat is in use I interpose springs 17 between the frame members and the upper surface of each float. Preferably these are coil springs and for convenience are carried by the bolts 9, 10, etc.

Finally, thumb nuts 18 are screwed upon the upper end of each of the retaining bolts, and this will hold the side frame members securely in position while at the same time providing a structure which may be readily "knocked down" or taken apart.

The floats are permitted to pivot in addition to the motion permitted by the springs 17, by providing pivots P intermediate the side frames and floats.

At the forward end of the side frame members 7 and 8 and beyond the forward ends of the forward floats 1 and 2, I provide a bumper 19, which may consist of a metal tubing detachably secured to the side frame members 7 and 8 in any convenient fashion.

At the rear ends of the frame members 7 and 8 I provide a similar bumper 20 and detachably secured to the ends of the members 7 and 8 beyond the rear ends of the floats 3 and 4.

For the purpose of bracing the structure I may employ cross pieces 21 and 22 held to the side frame members 7 and 8 by bolts 23 which merely pass into these side frame members instead of going through the floats, and thumb nuts 24.

The brace 22 which is at the rear of the structure about midway of the length of the floats 3 and 4, not only functions as a brace member but also as a support for an outboard motor 25, by which the boat may be propelled. This outboard motor may be of any of the well-known types of motors and is so mounted on the brace 22 as to swivel in a manner well understood to enable the boat to be steered. For the purpose of swiveling the motor 25 I provide ropes or cables 26 and 27 passing about the framework of the motor in opposite directions and secured to the framework, these cables being brought forward to the steering column 28. Movement of the steering wheel 29 will cause the motor 25 to swivel in one direction or the other, depending upon the direction the wheel 29 is moved.

As above mentioned, means are provided for preventing excessive heeling of the boat, and to this end I provide or rather I attach fins 30 and 31 to the inner sides of the floats 1 and 2. In addition I attach similar fins 32 and 33 to the inner side of the rear floats 3 and 4, respectively, and to the outer side of these latter floats I attach similar fins 34 and 35, respectively. These fins are mounted on

bolts 36, and each fin is provided with an up-standing portion or extension 37 through which the bolt passes. This extension 37 is slotted, and while the fins are held against a tipping movement they are permitted by reason of this slot and bolt construction to move upwardly or downwardly, as the case may be, and as the floats settle, due to an increase in speed of the boat, the fins will automatically move upwardly, so as always to be in proper position to perform the function of preventing excessive heeling of the entire structure. I might say that I have found that these fins also add somewhat to the speed of the boat in that they will naturally tend to cause the floats to plane as their speed increases.

As above mentioned I also provide mechanism between the forward floats 1 and 2 which may be employed as a brake in bringing the boat to rest and which may also be employed in causing the boat to plane. This mechanism comprises two flat plates 38 and 39 extending longitudinally of the structure and secured to a rod 40 extending transversely of the structure. The rod 40 has a lever 41 secured to it, this lever in turn being secured to a rod 42 extending rearwardly to within reach of the operator and is controlled from the operator's seat by control lever 43. Manipulation of the lever 43 will cause the plates 38 and 39 to be raised and lowered and obviously by proper manipulation of the lever 43 the rear ends of the plates 38 and 39 may be dropped, so that the plates will stand almost vertically and thereby function as a braking mechanism to bring the boat to rest.

The seating compartment of my improved apparatus is also quickly removable and comprises longitudinally extending frames 44 and 45, extending longitudinally of the structure, and cross pieces 46 and 47 detachably secured to the main or side frame members 7 and 8 through uprights 48 fastened to the side frames by bolts and thumb nuts. The seats or chairs are designated 49 while 50 designates a canvas well within which the seats and steering mechanism are mounted. This entire structure may be removed from the side frames 7 and 8 as a unit.

From all the foregoing it will be seen that I have provided a boat of new and novel construction and comprising four floats, two at each end thereof, with a seating compartment mounted between the two sets of floats.

It will be seen, furthermore, that the two sets of floats are composed of a material which has a high degree of safety in that puncturing of the same is impossible, these floats being solid structures so that there is no danger of the boat sinking as in the case of that type of craft employing air-filled pontoons.

It will be seen, furthermore, that the entire structure is so assembled that the same

may be quickly knocked down and packed in a small space. As a matter of fact the same may be taken apart and very readily carried in any ordinary automobile. It will be appreciated, furthermore, that the boat may be as quickly assembled.

It will be seen, furthermore, that I have provided means for absorbing as far as possible the shock of the waves striking the boat, and means for preventing heeling of the boat excessively as well as means for bringing the boat quickly to rest.

While I have described one embodiment of my invention it is to be understood that changes may be made therein without departing from the spirit and scope of my invention.

What I claim is:—

1. In apparatus of the class described the combination of a pair of forward floats, a pair of rear floats spaced therefrom, each of said floats being composed of solid material, a pair of metal side frame members extending longitudinally of the apparatus and detachably secured to the floats, and metal cross tie members detachably secured to the side frame members.

2. In apparatus of the class described the combination of a pair of forward floats, a pair of rear floats spaced therefrom, metal side frame members extending lengthwise of the apparatus and secured detachably to the floats, cross tie members detachably secured to the side frame members, and a seating and operating compartment intermediate the two pairs of floats and detachably attached to the said side frame members.

3. In apparatus of the class described the combination of a pair of forward floats, a pair of rear floats spaced therefrom, side frame members detachably secured to the floats, cross tie members detachably secured to the side frame members, an engine supported by the rear cross tie member, and a seating and operating compartment intermediate the front and rear floats and detachably secured to the side frame members.

4. In apparatus of the class described, a pair of forward floats, a pair of rear floats, said floats being constructed of solid laminated material, side frame members extending longitudinally of the apparatus, bolts and thumb nuts for detachably securing the side frame members to the floats, said bolts passing completely through the floats for securing the laminations of each float to each other.

5. In apparatus of the class described the combination of a pair of forward floats, a pair of rear floats, said floats being composed of solid material, side frame members of metal overlying the floats, means for detachably securing the side frame members to the floats, cross tie members separate from the floats detachably secured to the side frame members, and springs between the side frame

members and the floats for permitting relative movement between the floats and side frame members.

6. In apparatus of the class described, a pair of forward floats, a pair of rear floats, side frame members detachably secured to the floats and cross tie members detachably secured to the side frame members, each of said floats being constructed of non-sinkable material, the front end of each float being cut back and the underside of each float being concave.

7. In apparatus of the class described, a pair of forward floats, a rear float structure, side frame members for securing the floats to each other, and slightly concaved members attached to the inner face of each forward float and extending longitudinally of the floats, said members being movably attached to said floats so as to move upwardly and downwardly automatically.

8. In apparatus of the class described the combination of a forward float structure, a pair of rear floats, and plates attached to the outsides of the rearward floats movable vertically automatically for preventing excessive heeling of the structure.

9. In apparatus of the class described the combination of a forward float structure, a pair of rear floats, plates attached to the inner and outer sides of each of said rear floats, means for attaching said plates to the floats whereby the plates are free to move vertically with respect to the floats, said plates extending longitudinally and laterally with respect to the floats.

10. In apparatus of the class described the combination of a forward float structure comprising a pair of spaced floats, a rear float structure, side frame members for attaching the floats to each other, a pair of plates extending longitudinally of the apparatus and lying between the forward floats, said plates being movable about a transverse axis to positions to cause the forward floats to plane when the plates are in one position and to bring the apparatus to rest when the plates are in another position.

11. In apparatus of the class described the combination of a pair of forward floats, a rear float structure, side frame members detachably secured to the floats for attaching the floats to each other, a transverse rod extending from one forward float to the other, plates carried by said rod and extending longitudinally of the apparatus, a control compartment intermediate the forward float structure and the rear float structure and operating mechanism in said compartment attached to said transverse rod for effecting rocking movement of the same to impart a corresponding movement to said plates.

12. In apparatus of the class described the combination of a forward float structure, a rear float structure, a control compartment

intermediate said structures, side frame members detachably secured to said float structures, cross tie members detachably secured to the side frame members, a motor supported by one of said cross tie members, means within the control compartment for effecting a movement of said motor, thereby to guide the apparatus in its movements, and braking mechanism carried by the forward float structure and operable from the control compartment for bringing the apparatus to rest.

13. In apparatus of the class described the combination of a forward float structure, a rear float structure, side frame members extending longitudinally of the apparatus and projecting beyond the forward end of the forward float structure and the rear end of the rear float structure, means for detachably securing the side frame members to the float structures, bumper mechanism attached to the outer ends of said side frame members and extending transversely of the apparatus, cross tie members detachably secured to the side frame members, a motor carried by the rear of said cross tie members, a seating compartment intermediate the two sets of float structures detachably secured to the said side frame members, and mechanism operable from the control compartment for effecting bodily movement of said motor to guide the apparatus in its forward movement.

This specification signed this 18th day of October, 1928.

WILLIAM ADELMANN.