

Dec. 16, 1969

W. TRAUTWEIN

3,483,844

WATERCRAFT

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2 Sheets-Sheet 1

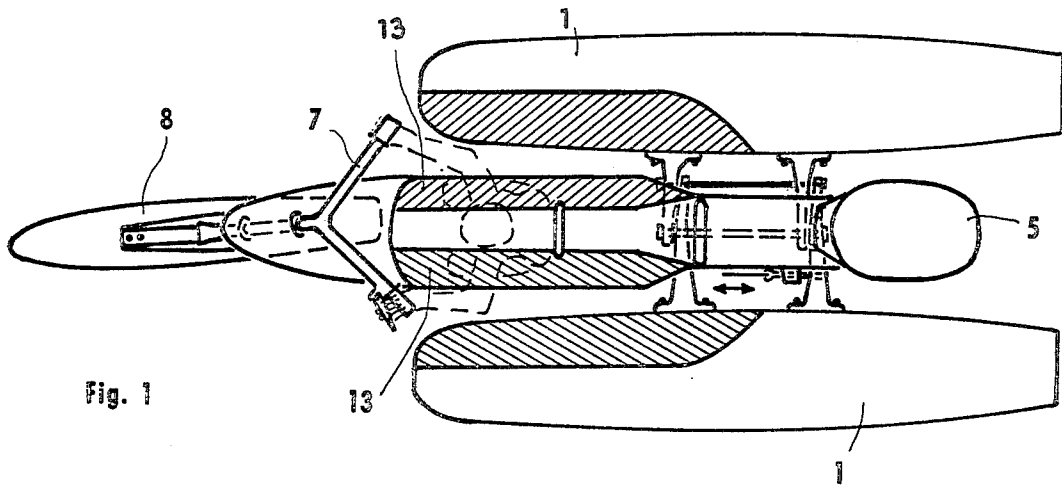


Fig. 1

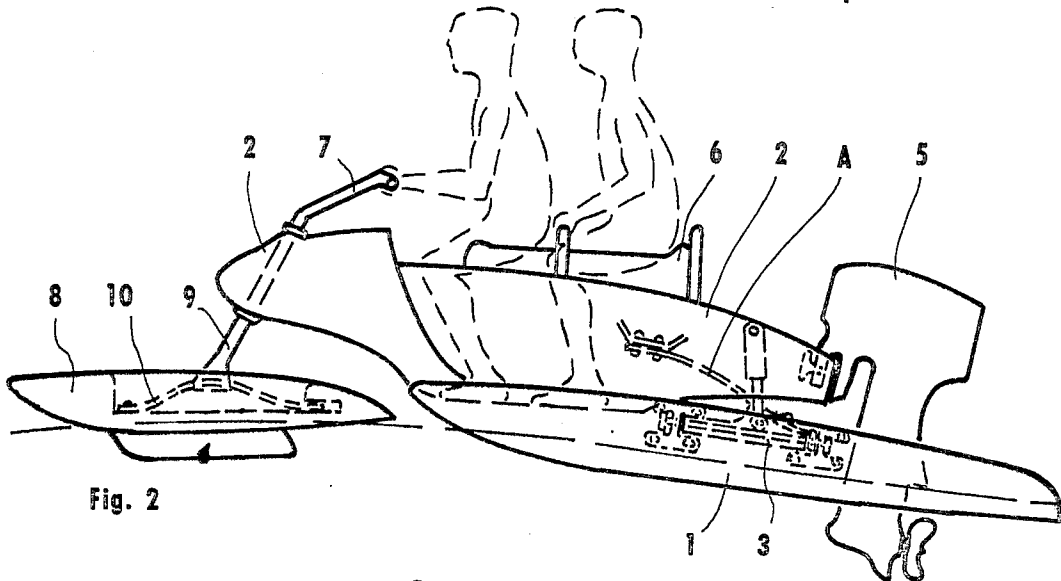


Fig. 2

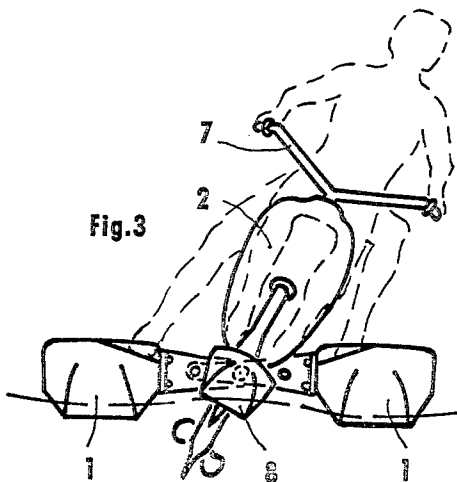


Fig. 3

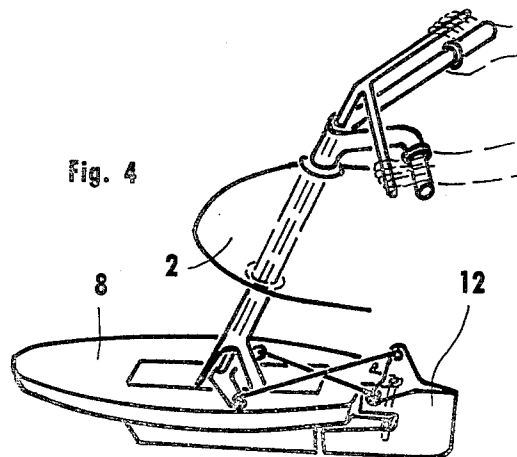


Fig. 4

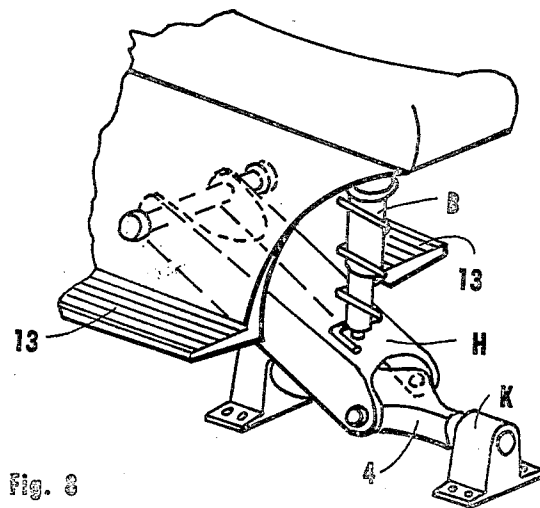
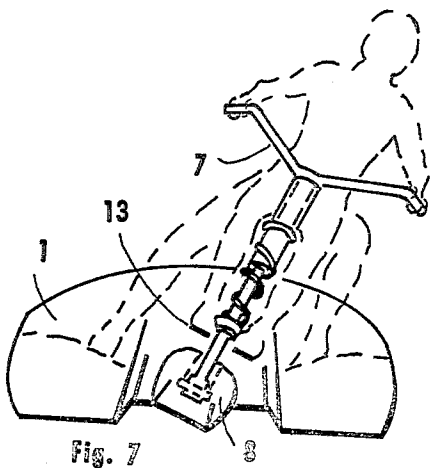
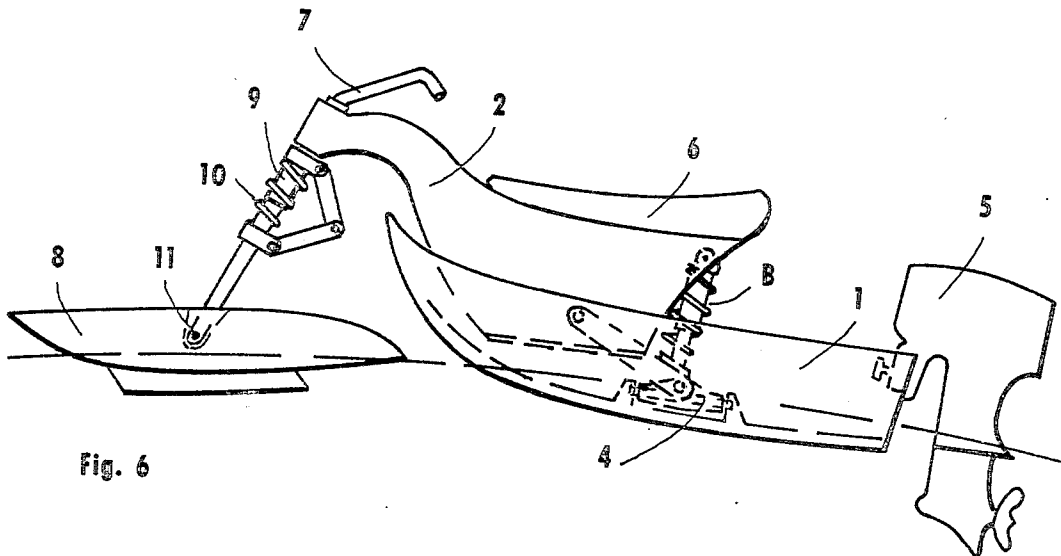
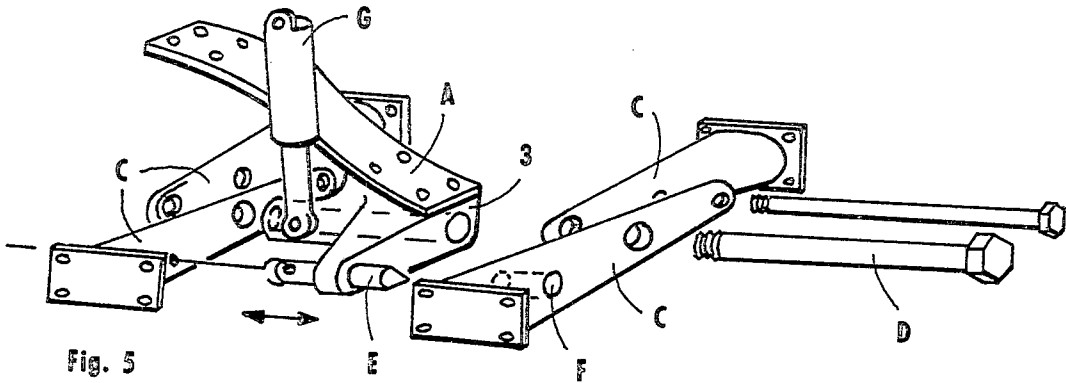
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WATERCRAFT

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6 Claims

ABSTRACT OF THE DISCLOSURE

A watercraft having a centrally located passenger carrying member, articulated, rear, outwardly extending supporting floats and a forwardly located steerable float. The floats can be selectively locked with respect to the passenger carrying member.

This invention relates to a powered watercraft and consists of the combinations, constructions, and arrangement of parts, as hereinafter described and claimed.

A principal object of this invention is to provide a watercraft with means whereby the riders can actively participate in steering by leaning and balancing in the manner of bicycle or motorcycle riding.

Another object is to provide a watercraft from which greater riding satisfaction and enjoyment can be derived than from an ordinary motorboat.

The watercraft consists essentially of an upright body member which is flexibly coupled at each end to tandem water contacting structures. One or several persons may ride upon the upright body member.

A further object is to provide a watercraft with greater maneuverability and visibility than that possessed by more conventional watercraft.

A further object is to provide a watercraft which can also be used as a stable and easily accessible base for other water sports such as: swimming, diving, and underwater activities.

A still further object is to provide a watercraft which is inexpensive to manufacture and maintain, which is easy to store and transport, and which can be powered by a conventional outboard motor.

Other objects and advantages of this invention will become apparent as the specification proceeds. The novel features will be pointed out in the appended claims.

For a better understanding of the invention, reference should be made to the accompanying drawings, forming part of the specification, in which:

FIGURE 1 is a top plan view of the watercraft.

FIGURE 2 is a side elevation of the watercraft.

FIGURE 3 is a front view of the watercraft.

FIGURE 4 is a detail of auxiliary steering means for the front float.

FIGURE 5 is a detail of the main body bearing and locking mechanism.

FIGURE 6 is a side elevation of an alternative watercraft.

FIGURE 7 is a front view of an alternative watercraft.

FIGURE 8 is a detail of an alternative main body bearing and suspension.

Referring now to the drawings in detail, the numbers 1 show a rear water contacting structure which provides the main means for floatation of the watercraft. Said structure may consist of either the two pieces shown in FIGURE 1, or the single hull-like structure shown in FIGURE 6. Either structure may be preferable depending on the needs of the user. For example, the two-piece structure shown in FIGURE 1 can provide a stable and easily accessible base for picking up fallen water skiers, or for swimming and diving. The single hull, with the upper

body detached, can be used by itself as a small motorboat.

A rear coupling mechanism connects the rear water contacting structure 1 to a main body member 2. Said rear coupling mechanism may have alternative embodiments depending on the type of performance desired by the operator.

One alternative is shown in the detail drawing of FIGURE 5 wherein said rear coupling mechanism consists of a leaf spring A, a bearing block 3, structural members C, and a bearing shaft D. The upper end of spring A is attached to the main body member and the lower end to bearing block 3. The bearing shaft D is journaled in bearing block 3 permitting said bearing block and attached main body frame to rotate about the bearing shaft. A locking mechanism, preferably a spring loaded plunger E, can be employed to inhibit the rotation of block 3 about the shaft D. Said plunger may be manually engaged or disengaged.

Referring now to FIGURE 2, it should be noted that, if the spring A is sufficiently flexible, the main body member 2 can move in an up-and-down direction relative to the rear water contacting structure 1. Again, if the spring A is sufficiently flexible, the main body member 2 can also rotate with respect to the rear water contacting structure 1 about an axis which is disposed in substantially a lateral or cross-wise direction. It should also be noted that these motions can occur simultaneously with the side-to-side rolling motion of the main body member 2 about the journal bearing 3.

Another embodiment of said rear coupling mechanism is illustrated in FIGURE 8. A structural member H is pin-connected at the upper end to the main body member and at the lower end to a bearing shaft 4 journaled in the bearings k. Pivotal motion of the main body member about the upper pin connection is restrained by the spring and damping mechanism B.

A seat 6 is mounted on the body member and may seat one passenger or several passengers riding in tandem. Manual controls 7, preferably handlebars, are located for easy reach by the foremost occupant of the seat. The forward portion of the body structure is shaped to provide a splash or spray shield for the riders. The propulsive means 5, preferably a conventional outboard motor, is mounted at the rear of either the main body member 2 or the rear water contacting structure 1.

It will be noted that the main body member 2 extends toward the front to overlie a forward water contacting means 8. Said forward water contacting means is connected to a steering column 9 by means of a front coupling mechanism. Specific embodiment of said front coupling mechanism may consist of the spring 10 depicted in FIGURE 2 or, alternatively, the spring 10 and pivot 11 depicted in FIGURE 6.

The steering column 9 is journaled to the main body member 2 so that the front water contacting means may be turned from side to side by handlebars 4 fixed to the upper end of said steering column.

An auxiliary steering mechanism may be provided for the front water contacting means as indicated in FIGURE 4. A rudder 12 is operated manually by the rider to provide water forces which assist in turning.

To operate the watercraft, an occupant takes a position on the seat 6 and rests his feet on the upper surface of the rear water contacting structure 1. The main body member is initially locked in the vertical position by the latching mechanism to insure stability. The rider, after advancing the throttle and picking up forward speed, releases the latching mechanism. The main body member is now free to bank and the rider controls the bank angle by pushing with his feet against the rear water contacting structure. After a further increase in speed, the rider

moves his feet from the rear water contacting structure to the alternate footrests 13 on the main body and has complete freedom to balance and bank into turns.

What is claimed is:

1. A watercraft comprising:

- (A) rear flotation means for supporting a rear portion of said watercraft on water;
- (B) forward flotation means for supporting a forward portion of said watercraft on water;
- (C) a main body member for supporting at least one rider;
- (D) articulated coupling means for supporting said main body member on said rear flotation means comprising:
 - (1) an intermediate coupling member,
 - (2) first hinge means for coupling said main body member and said intermediate coupling member and including means for pivoting said intermediate coupling member with respect to said main body member about a first axis,
 - (3) second hinge means for coupling said intermediate coupling member and said rear flotation means and including mean for pivoting said intermediate coupling member with respect to said rear flotation means about a second axis, wherein said first and second axes are at right angles and one of said axes is disposed in a substantially vertical plane which extends fore and aft with respect to said watercraft and the other said axis is disposed in a substantially vertical plane which extends transverse with respect to said watercraft; and
 - (4) steering means coupling said main body member and said forward flotation means for rotating said forward flotation means about a substantially vertical axis for steering said watercraft, a locking means interconnecting said main body member and said rear flotation means for selectively locking said main member in a substantially upright position with respect to said rear flotation means.

2. A watercraft as set forth in claim 1 wherein said

rear flotation means consists of two interconnected flotation structures disposed in a side-by-side relation, the lower surfaces of said flotation structures being contoured upward toward the front portions so that the watercraft will plane when under power and the upper surfaces of said flotation structures being substantially flat.

3. A watercraft as set forth in claim 1 wherein said rear flotation means comprises an essentially single hull structure having a lower surface rising toward the front wherein said watercraft will plane when under power.

4. A watercraft as set forth in claim 1 wherein said intermediate coupling means includes spring means coupling said intermediate coupling means to said main body member for constraining both vertical movement and transverse rotational movement of said main body member with respect to said rear flotation means.

5. A watercraft as set forth in claim 1:

(A) wherein said restraining means comprises spring means for compliantly constraining vertical motion of said main body member with respect to said intermediate coupling member;

(B) wherein said first axis lies in a vertical plane generally transverse to said watercraft and

(C) wherein said locking means comprises means for selectively interlocking said intermediate coupling member and said rear flotation means wherein rotation of said main body member about said second axis is prevented.

6. A watercraft as set forth in claim 1 wherein said steering means further comprises compliant restraining means coupling said main body member with respect to said front flotation means for constraining vertical movement of said main body member with respect to said front flotation means.

References Cited

UNITED STATES PATENTS

2,940,409	6/1960	Chaffee	115—70	X
3,294,055	12/1966	McGuire	115—70	

TRYGVE M. BLIX, Primary Examiner