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(54) Hull for small jet propelled boat

(57) Improved hull construction for a small jet boat for personal use, able to make the boat useful as boat to give rescue, comprising a bottom hull adapted such like a trimaran bottom hull (2), having increased stability when turning and having increased speed when travelling straight ahead, and a deck (7) carrying:

- a bow platform (10) comprising an anchor upper cavity on one side (19), a central upper cavity (18) for battery inspection in front of the steering-bar, a third upper box cavity on the other side (19);
- a long divided rised seat bench (8) extending over the longitudinal center of the boat towards the stern, on which a single rider and two passengers may be seated astride;
- a cavity under the seat bench for a refrigerator (20);
- a steering-bar (9) situated at the longitudinal center of the boat;
- two deck spaces (16) on both sides of the rider seat bench usable as lodging platforms for two rescue stretchers (17);
- foot troughs (11) provided along both sides of the seat bench.

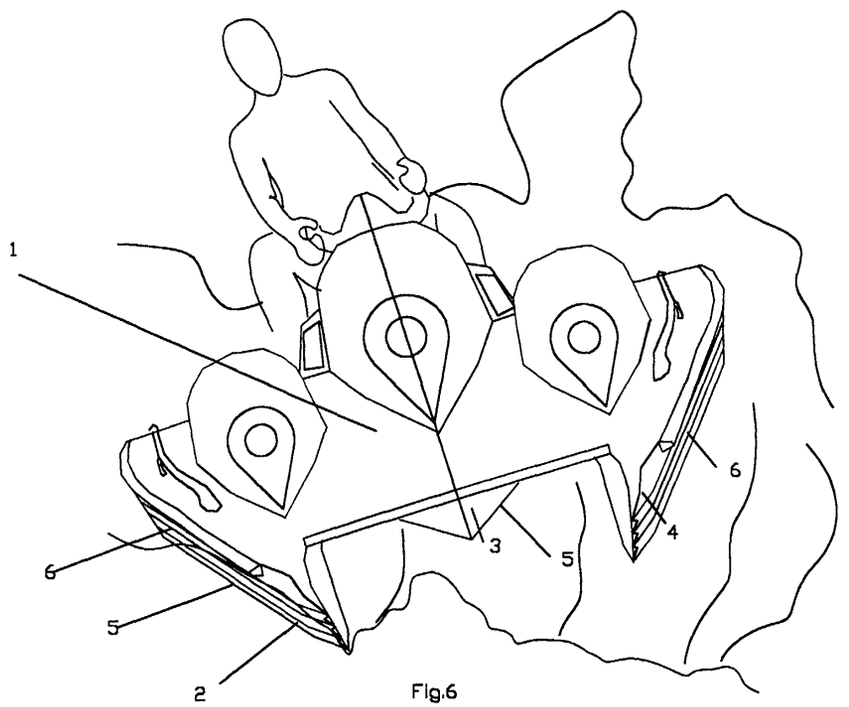
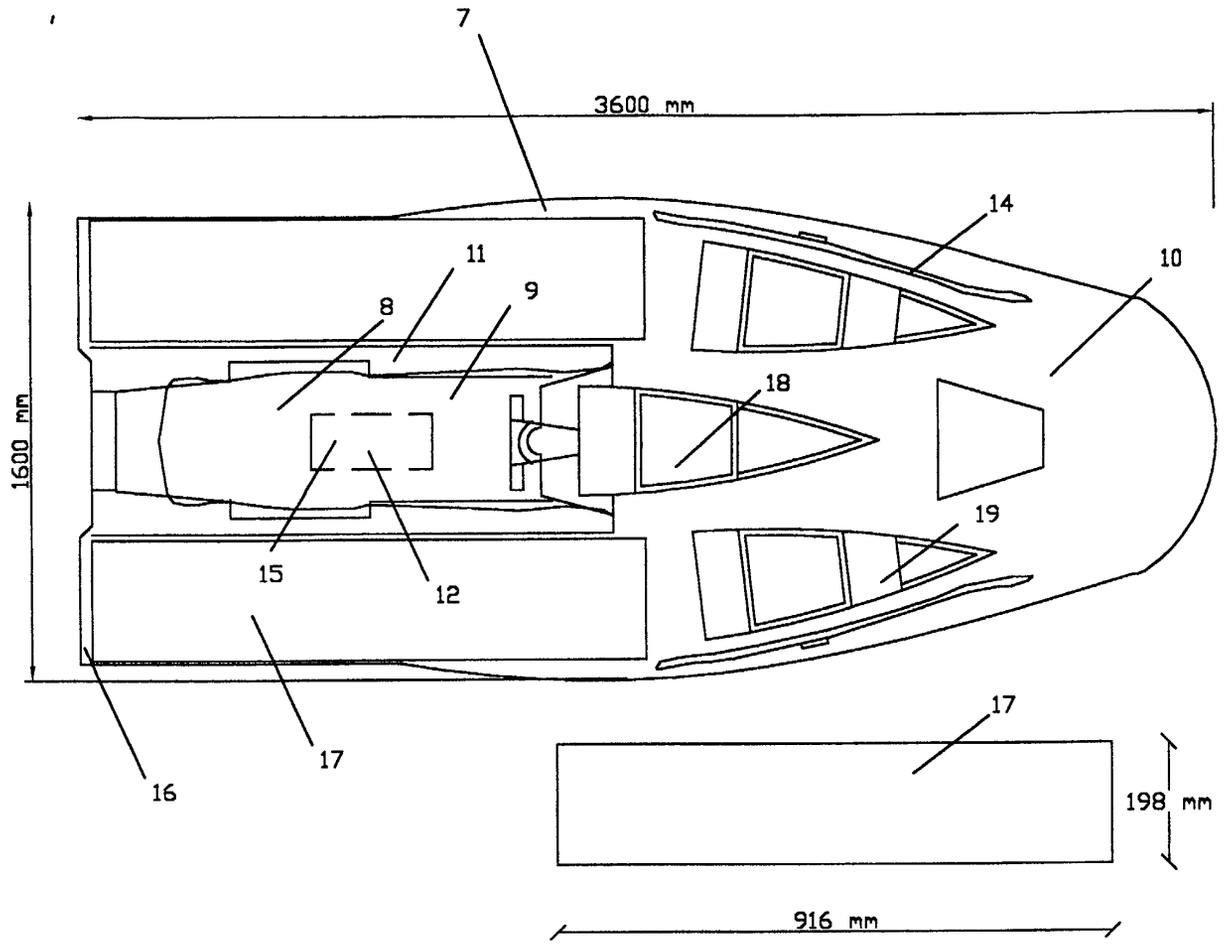


Fig.6

EP 1 488 994 A1



Flg.1

Description

[0001] The present invention relates to an hull construction for a class of small sporting boats. This class of small watercrafts is designed to be ridden by a single rider seated astride on the seat bench at the longitudinal center of the watercraft and to carry possibly one,two, three or four passengers, also seated astride on the seat bench behind the rider. The new invention relates to un hull able to make this kind of watercrafts usable as boats to give rescue. This new hull consruction is also able to increase the speed when travelling straihgt ahead and to improve stability and manoeuvrability under a wide variety of steering, particulary in turning.It introduces the change to join a deck with a bow platform carrying an anchor upper cavity on one side, a central upper cavity for battery inspection, a third upper box-objects cavity on the other side, each one complete with door, a refrigerator cavity under the seat, and two spaces on both sides of the rider usable as lodging platforms for two rescue stretchers, to a bottom hull realized such like a trimaran bottom hull, which allows speed but also stability and manoeuvrability when turning.

[0002] In the analogous well known boats, commonly including an internal combustion engine and a jet propulsion unit(driven by the engine), the large sized engine and the proplusion unit are positioned to the lower stem, beneath the watercraft rised seat. Moreover, variations in the number of the passengers can determine a different cargo conditions towards the stem. Further more, in pratical use of this kind of boats, passengers usually board the jet boat from the water (to such aim is frequently provided a stem deck). So inclinations due to the posterior weight, which widely condition the ddesign of the hull, may happen. In fact a single body configuration of the hull,tightened ahead and wide behind, in order to balance when two, three r four passengers are accomodate, or when the passengers board the jet boat from the stem, is generally provided The disadvantage of this kind of construction consists in that the wide hull may meet with the resistance of the water when passengeres are accomodate in a smaller number .Therefore the main object of the new invention is to provide an hull design which guarantees the floatation and control of the boat, indipendently from the number of passengers, keeping the compartment of the passengers, relatively small and compact, making so the deck to carry the upper cavities and two spaces usable to give rescue (lodging platforms for two rescue stretchers). Further object of the invention is to allow the realization of an economic and ecological jet boat, providing, by the configuration of the bottom hull, (consisting of three parallel bodies tight and lengthen), the housing of a small low power engine of low consumption (because of the smaller bathed surface of the hull compared with the analogous boats of famous type, and therefore of the smaller friction with the water).

SHORT DESCRIPTION OF THE DRAWINGS

[0003] In pratics there are several embodiments according to the present invention, and a preferred embodiment is described by way of example with reference to the enclosed drawings wherein:
pict. 1 shows a top plan view and the dimensional outline of the hull of a preferred embodiment according to the new invention;

- pict.2 shows a side view of the hull according to the new invention;
- pict.3 and pict.4 consist of two views which illustrate the use of the boat;
- pict.5 shows a front view of the hull according to the new invention;
- pict.6 shows a view which illustrates order of steering during the turning.

[0004] With particular reference to pict.5 and pict.6, (2) is the bottom of the hull (1), realized such like a trimaran bottom hull, consisting of a main body (3) and two lataeral bodies (4), parallel to the main body, each one having a V bottom(triangular cross sectional shape). The V bottom includes two angulary disposed surfaces (5) extending outside of the keel and ending, in the external bodies (4) of the bottom hull, with horizontal chines (6) lightly extending outside of the keel, parallel to the keel longitudinally. The chines are normally out of the water when the boat travels straight ahead or at the plan down speed, while during the turning (when the rider shifts his weight from side to side of the watercraft), the watercraft is tilted on the angulary disposed surfaces (5) and the chines (6) are in contact with the water as illustrated in pict.6. This kind of bottom hull allows stability and manoeuvrability in turning, and exceptinal speed to equal power, compared with the anologous well known boats because of the smaller friction of the bottom hull with the water. The V bottom of each body of the hull, realized such like a trimaran bottom hull, riduces te resistance met during straighting ahead because of the smaller surface brought into contact with the water (and then because of the smaller friction with the water), while the angulary disposed surfaces by the sides of the keel are adapted to became submerged in the body of the water both in the turning and in the departure for improving the stability and resisting any further rolling of the watercraft. In fact, when the watercraft is travelling straight ahead at high speed, only the angular surfaces by the sides of the keel, are completely in contact with the water, while the chines are in contact with the water only along their lower surfaces. When the rider turns shifting his weight from side to side in addition tothe turning, the water wil begin to exercise a pressure along the bottom hull assuring the stability: the external chines will be in contact with the water and the water will begin to exercise a pressure along their curved portions, in such way to help during he turning

by exerciting an hydrodynamic pressure that holds the watercraft in a straight line position. On the opposite side the bottom hull loses the contact with the water: anyway a good stability is got because of the wide water surface catched between the central body and the external body of the bottom hull, and between this one and the external chine,therefore because of the consequent forces and hydrodynamic pressures.

[0005] With particular reference to pict.1 and pict.2, (7), is the deck carrying a long divided rised seat bench that extends along the longitudinal axis of the boat, an handle bar (9) at the longitudinal center of the boat, a bow platform (10), foot troughs (11) for the riders on both sides of the seat bench, and two rised foot areas for the passengers (15); (12) is te engine and (13) is the jet propulsion device.The bow platform allows to accomodate an anchor uper cavity (19), a central upper cavity for battery inspection (18), and a third upper box objects cavity (19) each one complete with door,while on the deck spaces on both sides of the rider (16) two rescue stretchers (17) are assembled on suitable sledges. The stretchers may be untrheaded and used at once in the water, and then taken out of the water by hand or by means of little optional electrical winches controlled by watertight push bottons mounted on the stem of the hull.Moreover to move the patients, the stretchers may be unhooked in a mechanical way. Furthermore the blow platform has some handles (14), to facilitate the boarding of the jet boat, extending on both sides of the platform for all its lenght,adapted to be seized from people staying into the water, allowing them to exercise a pressure and to board the jet boat.

Claims

1. Improved hull for a small jet boat for personal use able to make this kind of watercrafts useful as boats to give rescue.

2. Hull, according to claim 1, consisting of a bottom hull realized such like a trimaran bottom hull, and a deck carrying:

   - a bow platform comprising a central upper storage cavity behind the handle bar and two lateral upper storage cavities;
   - a raised seat bench extending from the longitudinal center of the boat towards the stern;
   - an handle bar for steering positioned in front of the seat bench at the longitudinal center of the boat;
   - foot trroughs on both sides of the seat bench;
   - two deck spaces on both sides of he rider seat bench usable as lodging platforms for two rescue stretchers.

3. Hull, according to claim2, carachterized in that the bow platform is conformed to accomodate an anchor upper cavity on one side complete with door, an upper central cavity for battery inspection behind the handle bar complete with door, and a third upper box objects cavi ty on the other side complete with door.

4. Hull, according to claim 2, carachterized in that the deck spaces on both sides of the rider seat bench may be used as surfaces to put up two rescue stretchers, for being large enough.

5. Hull, according to claim 4, carachterized in that the sstretchers are assembled on suitable sledges, an then may be untrheated and used at once in the water.

6. Hull, according to claim 8, carachterized in that the stretchers may be taken out of water by hand or possibly by means of little optional electrical winches controlled by watertight push bottons mounted on the stem of the hull.

7. Hull, according to claim 4, carachterized in that the to move the patients, the stretchers may be unhooked in a mechanical way.

8. Hull, according to claim 1, carachterized in that the bottom hull is adapted such like a trimaran bottom hull, to increase stability and speed when travelling straight ahead, reducing the surface brought into contact with the water, and to increase stability and manoeuvrability when turning.

9. Bottom hull, according to claim 8, carachterized in that each one of its three bodies presents a V bottom, including two angulary disposed surfaces extending outside of the keel and ending in the external bodies of the bottom hull, with horizontal chines.

10. Hull, according to claim 8, carachterized in that when travelling straight ahead at high speed, only the angulary disposed surfaces by the sides of the keel are completely in contact with the water, while the chines are in contact with the water only along their lower surfaces.

11. Hull, according to claim 2, carachterized in that when the rider shifts his weight from side to side of the watercraft in addition to the turning, the water will begin to exercise a pressure along the chines, which will be in contact with the water assuring the stability during the steering manoeuvre.

12. Hull, according to claim 8, carachterized in that while during the turning on one side the bottom hull loses the contact with the water, anyway a good stability is got because of the wide water surface

catched between the central body and the external body of the bottom hull, and between this one and the external chines, therefore because of the consequent forces and hydrodynamic pressures.

13. Hull, according to claim 8, carachterized in that provides and allows the housing of a small low power engine of low consumption by way of configuration of the bottom hull (three parallel bodies tight and lengthen) and by way of the smaller bathed surface of the hull, compared with the analogous boats of famous type, and therefore by way of the smaller friction with the water.

14. Hull, according to claim 13, carachterized in that allows the realization of an ecological and economic jet boat.

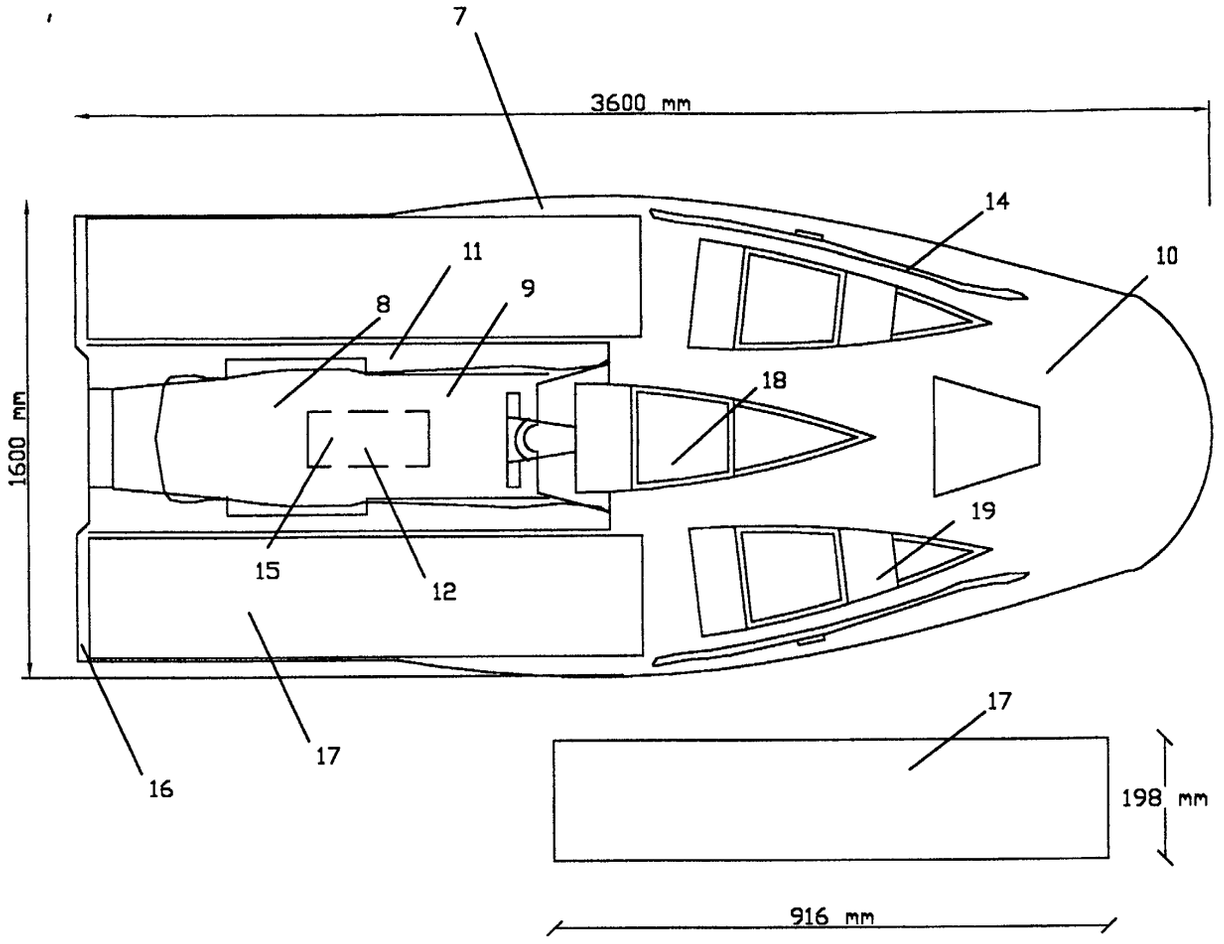

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Fig.1

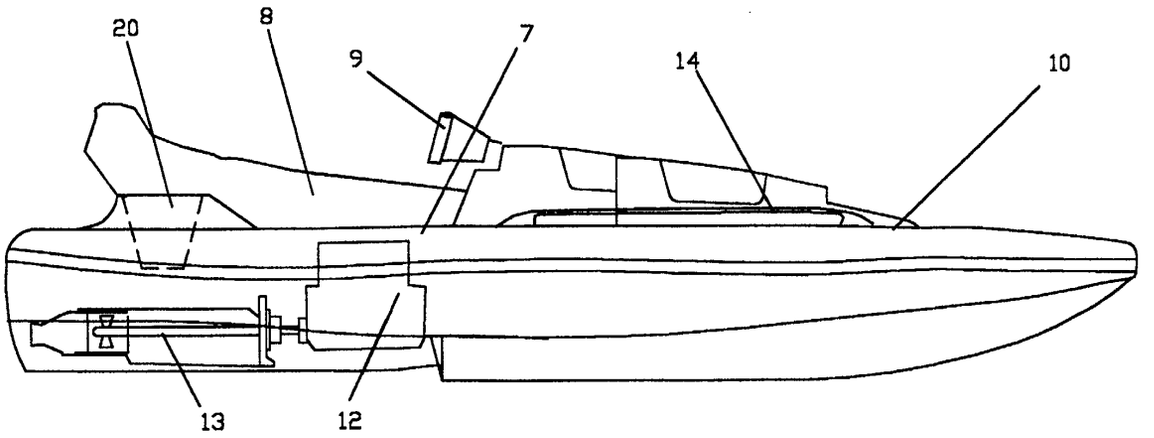

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Fig.2

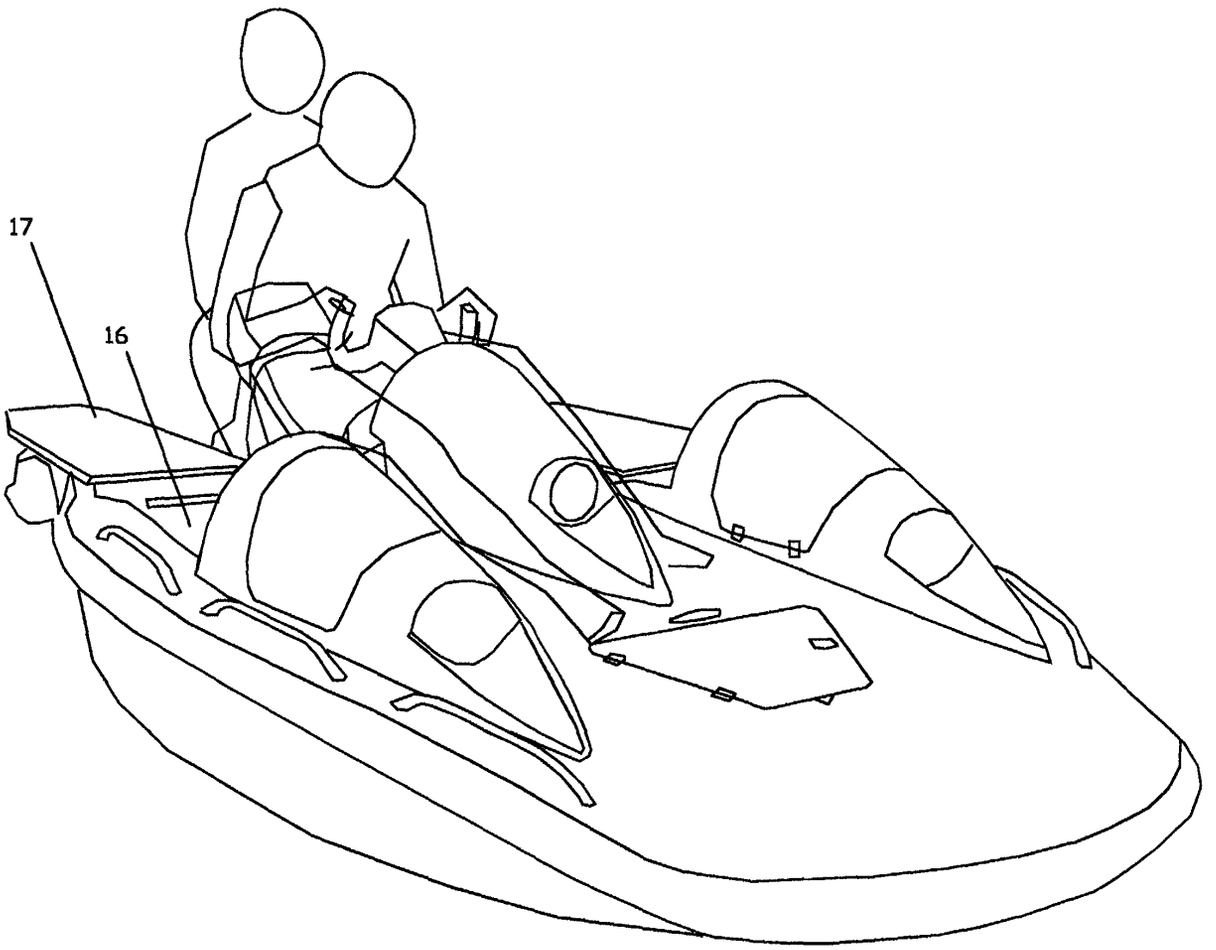
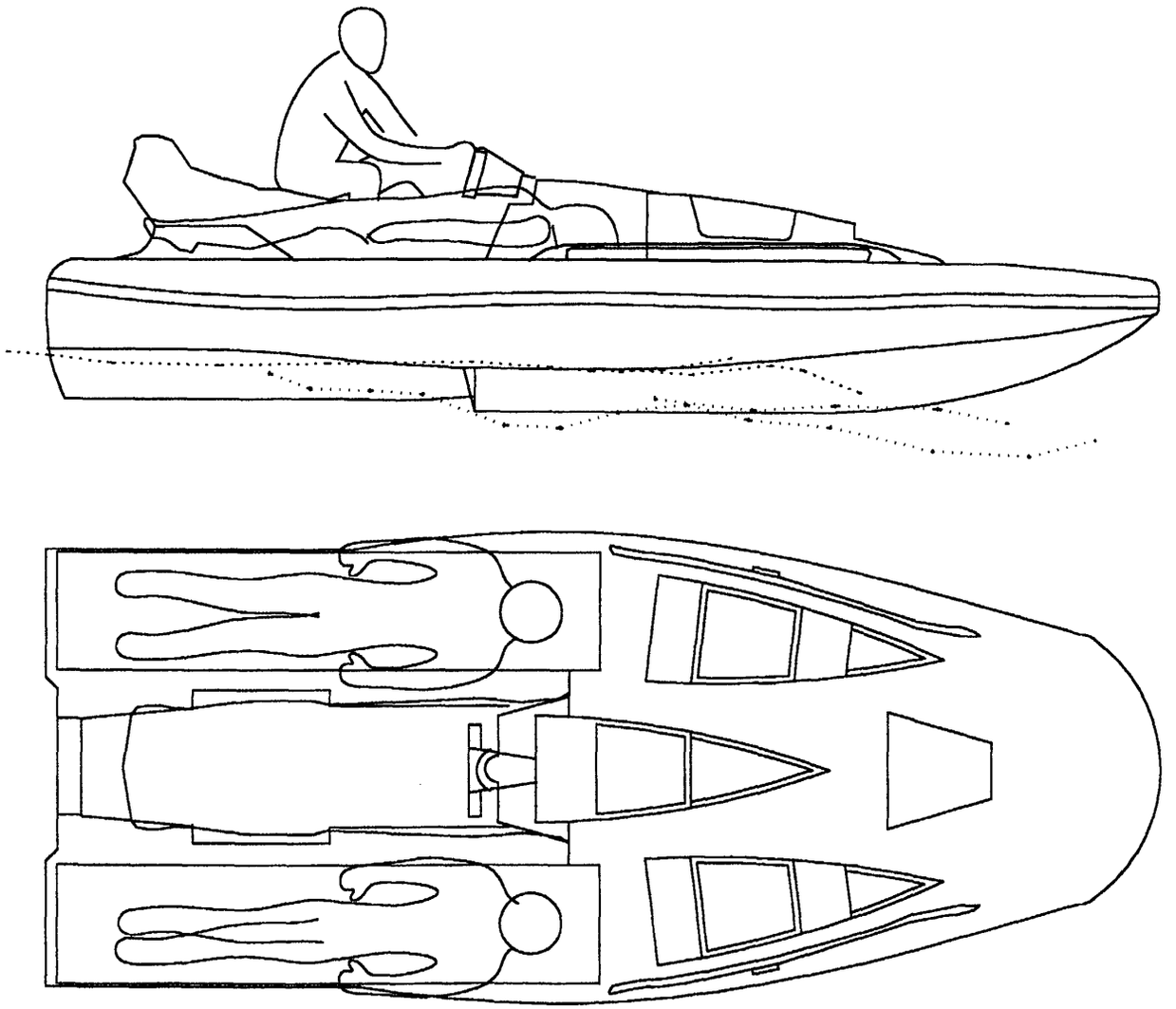


Fig.3



Flg.4

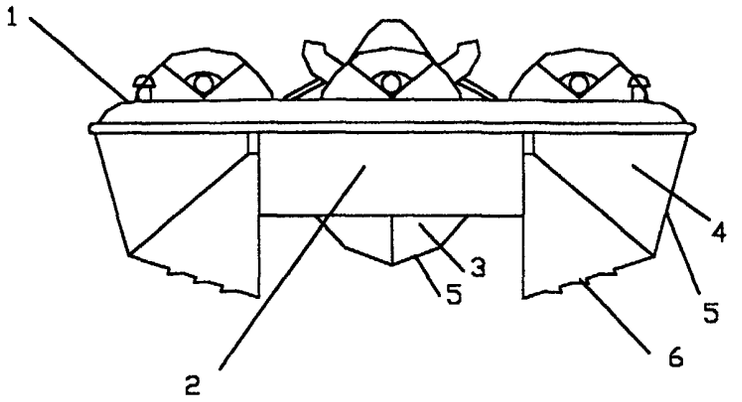


Fig.5

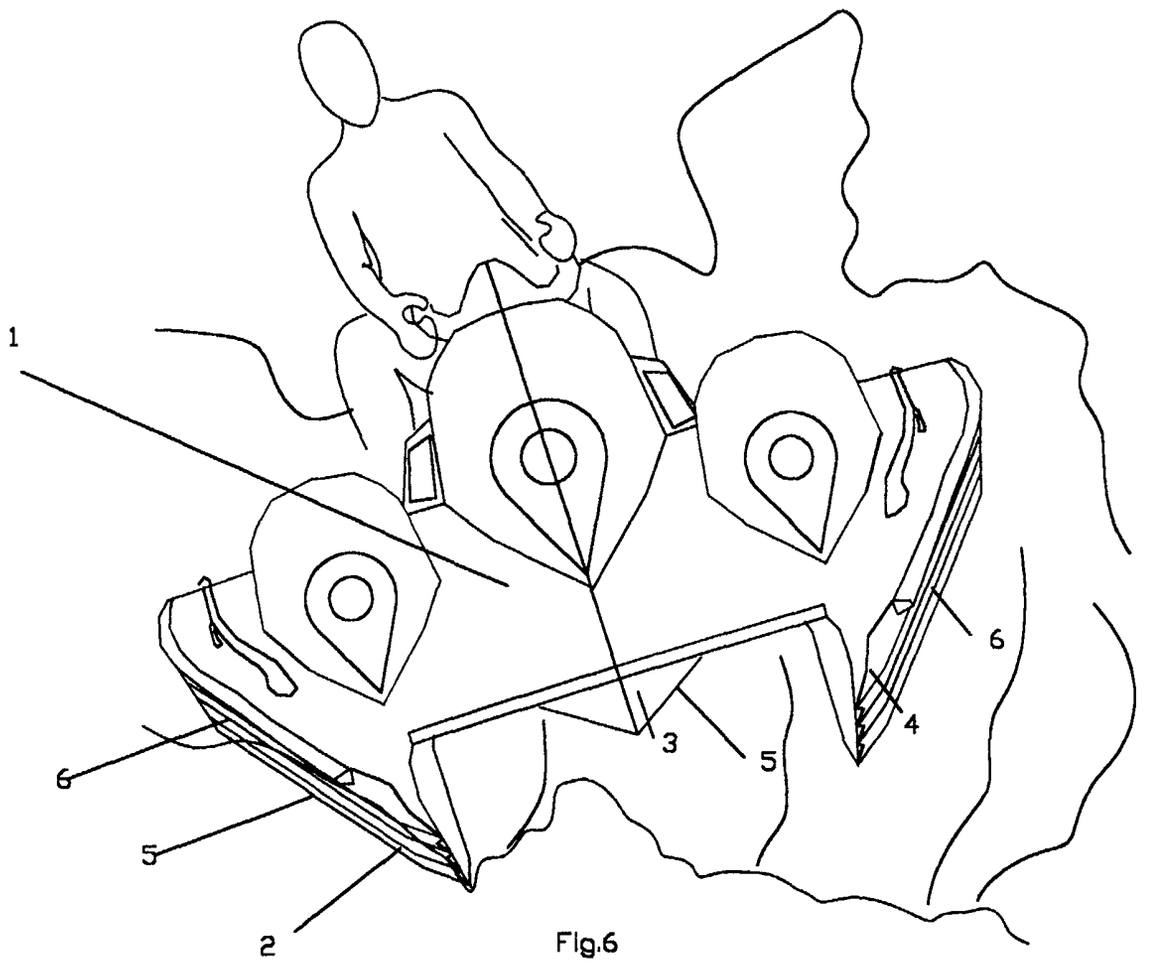


Fig.6

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Application Number
EP 03 42 5399

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	24 October 2003	van Rooij, M

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Place of search	Date of completion of the search	Examiner
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