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(54) **LEISURE BOAT**

(57) Sailing boat designed for one or two crew members who can be accommodated inside a two-seater hull or cockpit (1), with a continuous longitudinal seat (2) equipped with a pair of back rests (3 and 4), said hull (1) having mounted on its front end a nose-piece (7) of considerable length, which at its free front end houses an extractable telescopic mast (17) and a pair of foldable side arms (11) associated with respective floating run-

ners (12), all of which in such a way that said arms (11) can be folded onto the nose-piece (7), in the same way as the mast (17), and this assembly can then be folded onto the upper base of the hull (1), in a position which occupies a minimum amount of space and in which the boat can be easily transported on a wheel or roller situated at the rear, in the centre, with the aid of a front manual pulling handle.

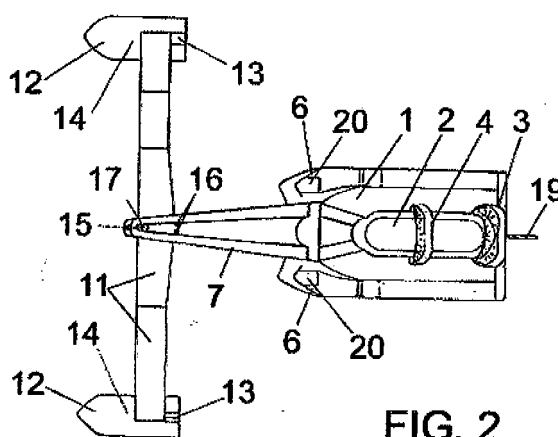


FIG. 2

Description

Purpose of the invention

[0001] The present invention relates to a leisure boat, defined as a small boat intended for one or two crew members and intended to be propelled by the wind, this is a sailboat.

[0002] The object of the invention is to provide a structure for a boat that folds away to drastically reduce its volume in the inoperative position, providing easy storage and transport out of the water.

Background of invention

[0003] There are leisure boats of small size, provided and designed for a small number of crew, which are usually driven by an outboard motor with the obvious polluting effects.

[0004] Also are known small sailboats with the classic configuration of a mono hull. Even though they may be in small size, it is practically impossible to remove manually from the water, nor transport and store easily during periods of inactivity.

[0005] This means, in practice, that for the maintenance of these boats, despite their small size, is needed to be carried out at a port jetty or otherwise employ the use of cranes, as well as special vehicles for transport to the place of storage, with an obvious economic cost.

[0006] Among the boats are known there are foldable boats, small size boats or expandable boats, with the possibility of adding accessories. In this sense, Spanish Utility Model No. 200701791 refers to a "Two Floats Folding boat, transportable over ground by wheels, coupled with various accessories and interchangeable accessories", with the possibility of incorporating, for example, a slide or a seat accessories, but very bulky, despite its pliability.

[0007] Also Spanish Utility Model 9800712 for "Folding Boat" has characteristics that allow for its storage and transport, but is designed primarily as a dinghy built on a ship.

[0008] It is also known a folding boat, such as described in Spanish Utility Model No. 266.512 characterized by consisting of two halves joined by hinges to both sides, located on the edges, which allows folding one over the other so that the boat could be transported on a small trailer.

[0009] Finally, the patent WO100330ES describes a demountable trimaran convertible in sailing catamaran and mono-hull with motor. The trimaran is achieved from the assembly of two boats: a sailing catamaran, with side runners, rudders and keels, and a mono-hull with motor.

[0010] The boat proposed in this invention improves and completes what is previously known, describing an original boat, with new features, achieving a significant reduction in the volume of the boat and the possibility to be easily transported out of water.

Description of invention

[0011] The leisure boat proposed by the invention resolves in a fully satisfactory way the afore mentioned problems previously exposed.

[0012] More specifically, this boat has a hull with two-seater hull or cockpit, preferably buoyancy compartments to ensure flotation against any problem that may arise in the port or starboard flotation compartments. The main hull has a locked down bow beam arm that extends to support the fold out on mountable arms that the out runner flotation modules are attached to. The two out runner flotation modules, when in the fixed position, provide a solid stable boat in conjunction with the main hull.

[0013] It is also characterized because the mast foot mounting telescopic is located at the front end of the bow beam. Here the bayonet fixture for the mast foot is connected. The mast foot is constructed with a foldable nuckle to facilitate ease on attaching the mast in a horizontal position than elevate the mast with sail to its vertical position. The mast is in two pieces which makes transportation and storage easy. A camber inducer is used to connect the lower sail batten providing a flexible batten boom to orientate the position of the sail.

[0014] It is also characterized the out runner supporting arms are folded back on the bow beam with a pivot point placed at the front of the bow beam. The supporting arms are also folded in two with a pivot joint half way down the arms. The bow beam and folded supporting arms are then all folded back over the top of the main hull seating area to provide an extremely compact package ready for transportation or storage.

[0015] In keeping with the compact and ease of handling features of the invention provisions have been made to facilitate the mobilization of the boat. The main hull has two built in sockets in the lower central hull area where wheels on stub shafts can be inserted. This allows the folded up package to be transported on the ground or rolled down the beach or ramp to launch the boat when it is folded out, rigged up and ready to sail.

[0016] Other characteristic is at the front of the hull there is the tension bar to be used to attach the hull to the bow beam. When the boat is folded up ready for transport this tension bar is used as a hand grip to manually pull the package along.

[0017] The invention is also characterized because support for the pilot is movable along the longitudinal axis of the capsule two-seater and in areas corresponding to the footrest, the pilot steers the boat using the rudder activated by foot pedals.

[0018] The resulting design achieved a boat that has the acceptable dimensions for a utility boat. A length that does not exceed three meters and mast height that is preferably no more than two meters and sixty centimeters high preferably. The folded away package therefore drastically reduces the overall size making it an easy manually transportable leisure boat.

Description of drawings

[0019] To complement the description and in order to provide a better understanding of the features of invention a set of drawings are included, according to a preferred embodiment thereof. Following is a description of the drawings and the components that are included in the realisation of the before mentioned invention, by way of illustration and no limitation:

Figure 1: shows a schematic side elevation of the leisure boat made according to the objective of the present invention;

Figure 2: shows a plan view of the assembly shown in the figure above.

Figure 3: shows a front elevation view of the same leisure boat.

Figure 4: shows a representation similar to Figure 1, in which two occupants are properly positioned on the encapsulated hull.

Figure 5: shows another schematic side elevation of the boat in adequate position folded for transport.

Preferred embodiment of invention

[0020] In accordance with invention proposed, the leisure boat proposed by the invention is formed from a two-seater encapsulated hull or cockpit (1) of adequate size to accomodate minimal but comfortably a couple of occupants, as shown in Figure 4, which rest on a continuous longitudinal seat (2) equipped with a pair of back rests (3), (4), fixed, while half way along is the second back rest (4) moving for the pilot, sliding on guides (5) and consequently positioning control complementing this set with a footrest (6) for the pilot and (6') for the passenger.

[0021] As shown particularly in Figure 1, said hull (1) having mounted on its front end a nose-piece (7) of considerable length, pivot point mounting is attached to the upper hull (1) by way of a pin and bushings that provide the foldable beam (8) lockable in the working rigged up position shown in Figure 1 with the help of a second pin (9) removable, so such releases (7) is capable of being thrust forward or folded down onto the hull or capsule tandem (1).

[0022] The nose-piece (7) receives at its front end and through a spreader (10) a pair of articulated and foldable side arms (11), also with corresponding tilt pins and locking pins, both supporting arms being attached to the out runner floating modules (12) that cooperates with the main hull (1) to the total buoyancy of the boat.

[0023] As shown in Figure 2, the folding side arms (11) are the supports for the out floating runners (12) also through respective guides (13) and locking pins (14). On

the other part, the folding side arms (11) are mounted on the edge of the nose-piece (7) through a pin or a common tilt axis (16), while the lock /unlock the same with respect to the nose-piece (7) is carried out in collaboration with independent pins (15).

[0024] As also shown in Figure 1, the edge of the nose-piece (7), also mounts an extractable telescopic mast (17) which support the sail, not shown, the mast is removable and has a two piece structure as shown in sections (17, 17'...) that allow the aforementioned turn pliability, being in turn associated with the extractable telescopic mast (17) the boom (18) which receives the lower edge of the sail.

[0025] The boat is provided with a rudder later (19), which has the characteristic of being manipulated by means of cable or other suitable transmission, for example, a pair of foot pedals (20) located on the footrest (6) of the pilot.

[0026] After folding of the boat shown in Figure 5 and in order to facilitate transport or handy pulling of boat, in the back of the hull or two-seat capsule (1), centrally placed, is disposed a wheel or roller (21) mounted on a support (22), pivoting on a central axis, the wheel or roller is integrated into the hull, situated at the rear, and which is capable of adopting two positions: the position of juggling shown in Figure 1, with does not affect the seaworthiness of the boat, and a reverse position, shown in Figure 5, which provides rear support and rolling of the boat easily transported along by the aid of an extensible bar (23), removable from the hull (1) and finished with a manual pulling handle (24) as also seen in Figure 5.

Claims

1. Leisure boat, intended for use by one or two crew members, being of the sailing type, **characterized by** comprising of three floating elements, a main two-seater hull or cockpit (1) and a pair of out runner flotation modules (12) both spaced substantially among themselves and with respect to said hull which is attached by a pair of foldable side arms (11), topped by its free end with the flotation out runners that are attached to the nose-piece (7) which provides support for the extractable telescopic piece mast (17), and which is tiltable with respect to the hull (1), upon which hinged top is when the arms swing above are properly folded and the mast retracted with a minimal footprint in its inoperative situation, incorporating in addition in the rear and located centrally, wheels or rollers that allows movement on the floor and anterior superior bar (23) removable from inside the capsule hull (1) and finished with a handle (24) for manual grip.
2. Leisure boat according to claim 1, wherein in the tandem capsule hull (1) is placed a continuous longitudinal seat (2), capped by a back rest in (3) for

the passenger, and on which is mounted a mobile support (4) for the pilot, being such support (4) adjustable along guides (5), while incorporating the hull capsule (1) footrest (6) for the pilot and (6') for the passenger.

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3. Leisure boat, according to previous claims, wherein on the footrests (6) corresponding to the pilot pedals are set (20) to control the rudder (19) of the boat by use of the pilot's feet.

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4. Leisure boat, according to previous claims, wherein the nose-piece (7) is attached to the two-seater hull capsule (1) through a shaft or pin fixed (8) which cooperates with fixed pin (9) removable to lock/unlock the bow beam.

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5. Leisure boat according to previous claims, wherein the nose-piece (7) is finished with the right angle pilot fixture (10) with an articulated joint assisted by fixed pins and mobile folding side arms (11), linking the different sections together in similar fashion that are coupled by its free end to guides (13) in the out floating runners (12), holding fast with pins (14).

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6. Leisure boat, according to previous claims, wherein the said wheel or roller (21) with the corresponding support (22), is usually built into the hull capsule (1) of the boat in the rear, in the centre, so as not to affect the navigability of the same, and is susceptible of reverse swing to a position in which the wheel or roller rests on the ground for transportational movement with the aid of a front manual pulling handle (24).

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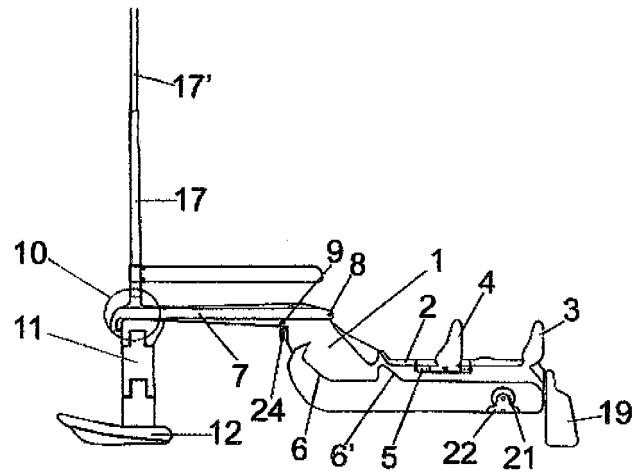


FIG. 1

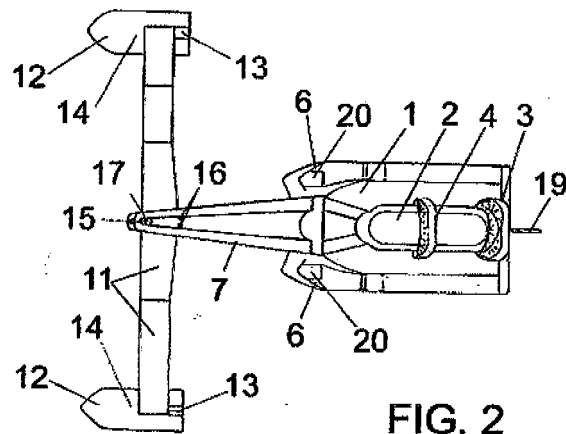
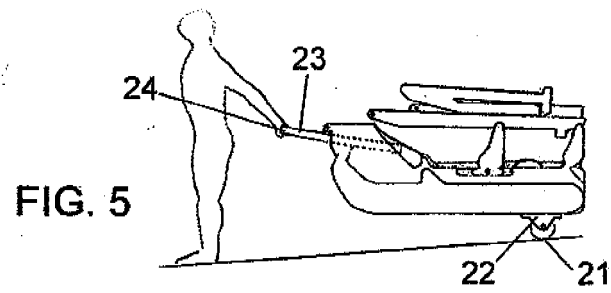
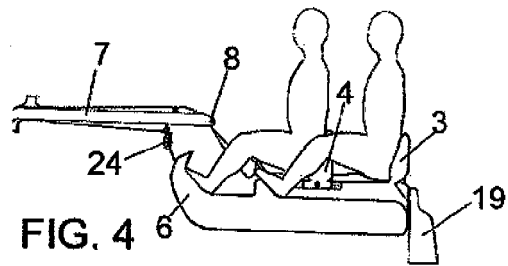
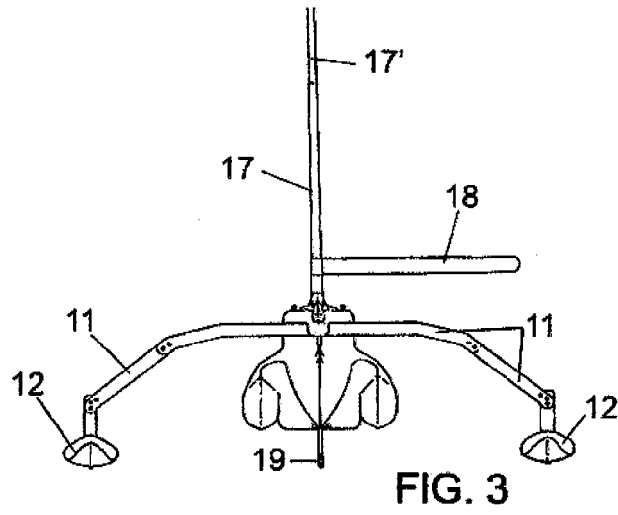


FIG. 2



INTERNATIONAL SEARCH REPORT

International application No.
PCT/ ES 2010/000062

A. CLASSIFICATION OF SUBJECT MATTER

see extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 10347803 A1 (SCHOENWAEELDER JOACHIM)	1,2,4-6
Y	30.06.2005, figures 1,2,5 paragraph [15];	3
Y	IT 1033619 B (VISINTIN G ; ALBERTANI A)	3
	10.08.1979, page 1, line 23-page 2, line 2	
X	US 4294184 A (HEINRICH et al.) 13.10.1981,	1
	column 3, lines 34- 36; figures 1,9,10	
A	GB 191300514 A (SCHANZENBACH GOTTHOLD ; KNAPP	1
	CARL) 07.01.1914, figures 1,2	
A	FR 2457212 A1 (MOURGUE PASCAL) 19.12.1980,	
	the whole document	
A	DE 3835551 A1 (BIRK HERMANN) 26.04.1990,	
	the whole document	
A	FR 2585322 A2 (DAT FREDERIC) 30.01.1987,	
	the whole document	

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:	"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance.	
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"P" document published prior to the international filing date but later than the priority date claimed	
	"&" document member of the same patent family

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Form PCT/ISA/210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/ ES 2010/000062

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
FR 2457212 A	19.12.1980	NONE	-----
GB 191300514 A	07.01.1914	NONE	-----
IT 1033619 B	10.08.1979	NONE	-----
DE 10347803 A	30.06.2005	NONE	-----
DE 3835551 A	26.04.1990	NONE	-----
FR 2585322 A	30.01.1987	WO 8603722 A AU 5193386 A EP 0204759 AB EP 19850906078 US 4771716 A AT 41387 T AU 596957 B	03.07.1986 22.07.1986 17.12.1986 09.12.1985 20.09.1988 15.04.1989 24.05.1990
US 4294184 A	13.10.1981	EP 0004796 AB EP 19790300607 AU 4591179 A AU 523828 B	17.10.1979 11.04.1979 18.10.1979 19.08.1982 19.08.1982
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Form PCT/ISA/210 (patent family annex) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2010/000062

CLASSIFICATION OF SUBJECT MATTER

B63B 1/12 (2006.01)

B63B 7/02 (2006.01)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- ES 200701791 [0006]
- WO 100330 A [0009]