July 8, 1969 G. MAMBRETTI 3,453,671

INFLATABLE BOAT

Filed July 21, 1967 Sheet 1 of 3

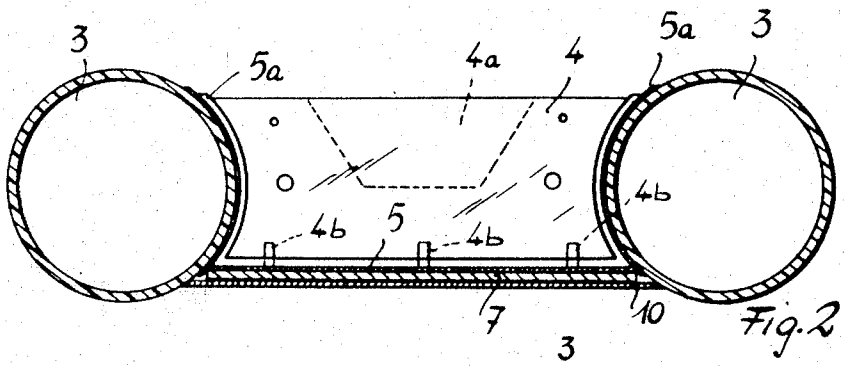


Fig. 2

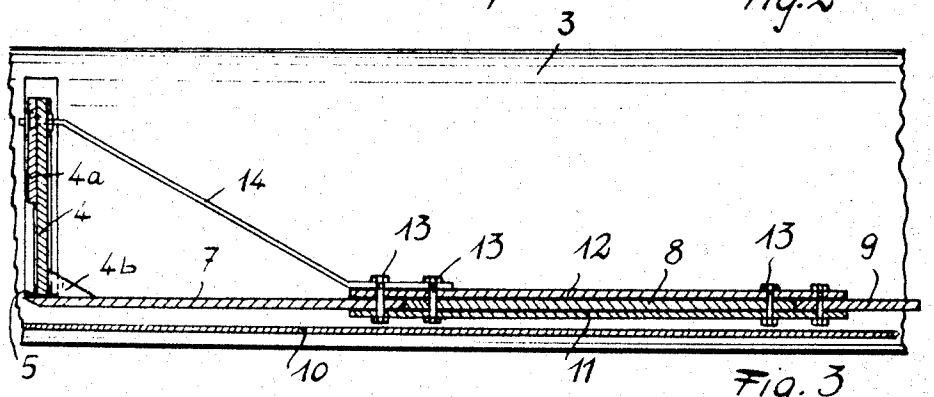


Fig. 3

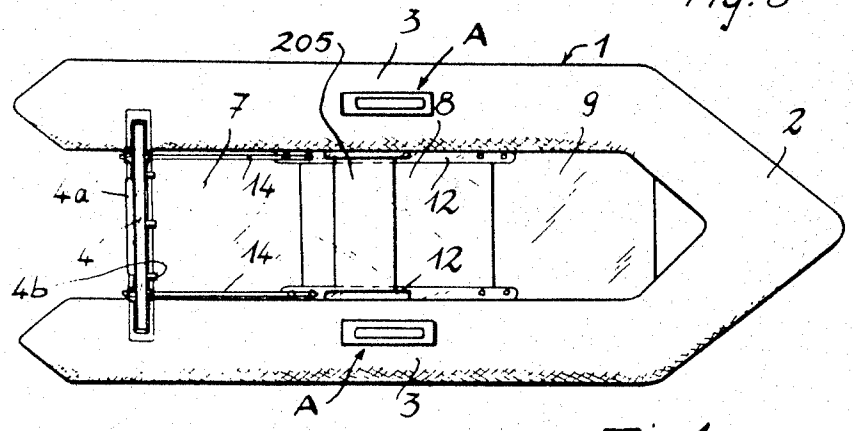


Fig. 1

INVENTOR
GIANCARLO MAMBRETTI
BY Steinberg + Blake
ATTORNEYS

July 8, 1969 G. MAMBRETTI 3,453,671

INFLATABLE BOAT

Filed July 21, 1967 Sheet 2 of 3

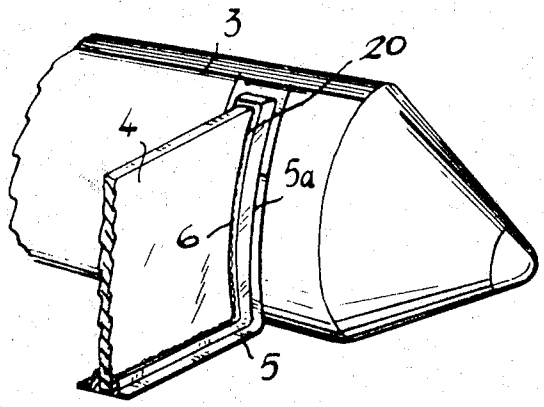


Fig. 4

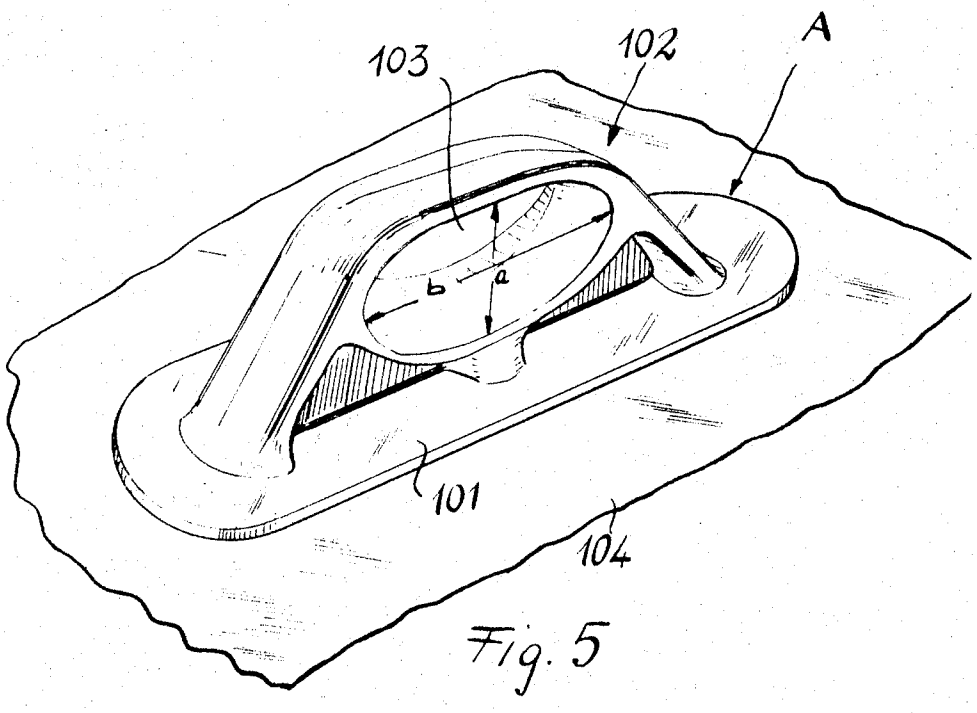


Fig. 5

INVENTOR
GIANCARLO MAMBRETTI
BY Steinberg + Blake
ATTORNEYS

July 8, 1969 G. MAMBRETTI 3,453,671

INFLATABLE BOAT

Filed July 21, 1967 Sheet 3 of 3

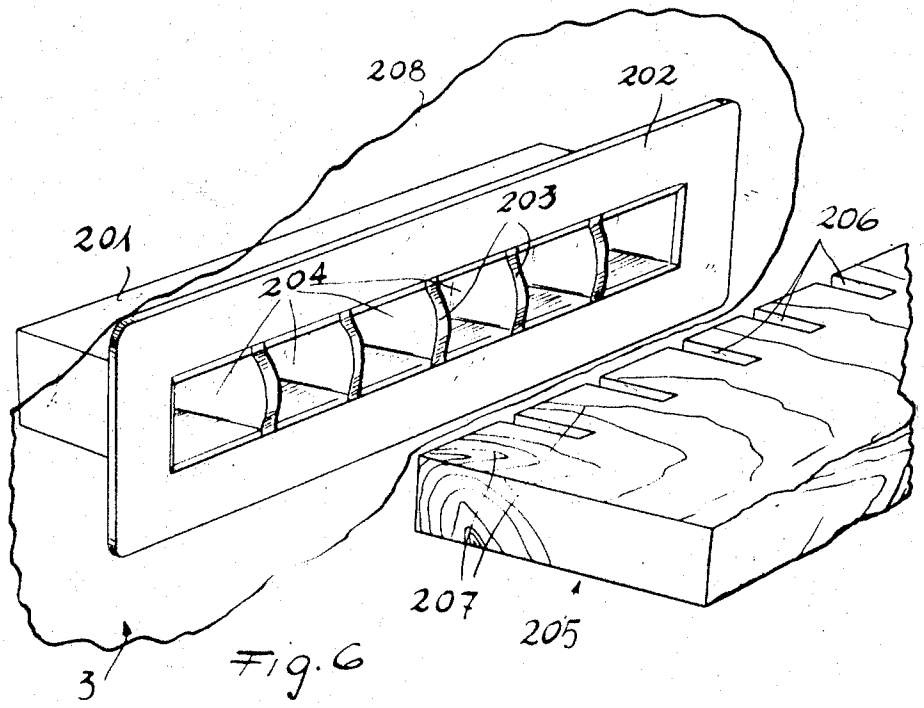


Fig. 6

INVENTOR
GIANCARLO MAMBRETTI
BY Stanley & Blake
ATTORNEYS

United States Patent Office 3,453,671 Patented July 8, 1969

3,453,671

INFLATABLE BOAT

Giancarlo Mambretti, Carnago, Varese, Italy

Filed July 21, 1967, Ser. No. 655,163
Claims priority, application Italy, July 26, 1966, 5,185/66, 5,186/66, Jan. 9, 1967, 11,270/67
Int. Cl. B63c 9/02
U.S. Cl. 9—11 2 Claims

ABSTRACT OF THE DISCLOSURE

An inflatable boat adapted to be driven by an outboard motor. An inflatable float is provided in the form of an elongated tubular body made of a suitable plastic and forming an envelope by which the bow and sides of the boat are formed. A rigid transom, to support the outboard motor, is situated adjacent the stern end of the boat. A plastic strip is welded to the tubular body at the region of its stern end and is formed with grooves which receive edges of the transom, the latter being secured to the strip by being welded thereto. An oarlock is welded to the envelope and has an upper projection formed with an elongated bore having a minor axis extending vertically and having a length no greater than the diameter of an oar while the major axis of the bore extends horizontally and is larger than the oar diameter to provide for free movement of the oar in the bore. A seat is in the form of an elongated board having teeth at its opposed ends, and at each side of the envelope there is welded thereto a flange which surrounds a support in the form of a hollow body subdivided by partitions into recesses which receive the teeth at an end of the board so as to support the latter.

This invention concerns an inflatable boat, of the type that can be driven by an outboard motor.

As already known, remarkable difficulties are encountered in securing the usually wooden crossbar or transom, by which the outboard motor is supported, to main boat body, made of a plastics elastomer, owing to particular design of sides thereof.

Also known is that the conventional oarlocks for oar boats consist of plain, open rings, which results in the necessity to have a collar fitted in a suitable position on the oar, to prevent a possible slipping-off and getting lost of same oar, when left free.

One purpose of this invention is the provision of a boat design wherein the motor-supporting crossbar or transom, is efficiently and safely secured to boat sides, by thoroughly engineered and easily workable connection means.

Another purpose of the invention is the provision of an inflatable boat with oarlocks designed in such a manner as to allow the use of collar-, or bead-free oars.

A further purpose of the invention is the provision of an inflatable boat fitted with simple, and efficient means for supporting the seat.

The above and further purposes are fully attained by the inflatable boat according to the invention, which is characterized in that it consists of a hollow tubular body, made of a plastics elastomer, and by which the bow and sides are formed. Fitted close to stern is a rigid transom, also preferably made of a suitable plastics, for supporting the outboard motor. The transom is connected with said tubular body by means of a grooved plastic member, heat-sealed thereto, and wherein said transom is engaged and secured preferably by welding with a filler rod.

According to the invention, oarlocks are provided, having an oval, or elongated bore, with the conjugate or minor axis equal to, or slightly smaller than the oar diameter, whereby the oar is elastically retained and prevented

from slipping off, while being allowed to perform the usual reciprocating motion in the oarlock.

Again according to the invention, heat-sealed on the inflatable boat sides are elements or retainers, formed with a plurality of aligned recesses, wherein both comb-shaped ends of seats can be engaged.

The further object and advantages of the invention will be better appreciated from a consideration of the following description of a preferred embodiment form thereof, taken with the accompanying drawings, being both description and drawings given as a non restrictive example only. In the drawings,

FIG. 1 is a plain view of boat.

FIG. 2 is an enlarged cross-sectional view, taken close to boat stern.

FIG. 3 is a part longitudinal section of a detail of retainer means, by which the bottom and transom are connected with the boat body.

FIG. 4 is a detail of retainer means, by which the motor supporting transom is connected with the boat body.

FIG. 5 is a perspective view of a boat oarlock, and

FIG. 6 is a part perspective view of a support, welded to boat body, and by which the seats thereof are supported.

Referring now to said drawings **1** is an an inflatable tubular body, made of any suitable plastics, as e.g., polyvinyl chloride, and by which the bow **2** and sides **3** are formed. Associated with the boat stern is a rigid transom **4**, also made of plastics, and by which the outboard motor is supported. Said transom **4** consists of a flat board made of a rigid plastics, and associated with a suitably profiled band **5**, made of PVC, and extending all along the bottom and side edges of transom. In more detail, said band **5** is formed with a groove **20**, wherein the bottom and side edges of transom **4** are engaged and secured by a hot air welding, with the aid of a filler rod, whereby to form a PVC bead **6**, all along the contour of transom **4**, on either side thereof.

The band **5** is fastened, also by heat sealing, to boat sides **3**, all along the lengths *5a* (see FIG. 4), which are suitably bent, to conform with the shape of same sides.

The transom **4** is reinforced by a trapezoid-shaped stiffening element *4a*, applied in the zone where the outboard motor is clamped. Joint plates *4b* are provided for the connection with the boat bottom (see FIGS. 2 and 3). Said stiffening element may be integral with the transon (i.e., formed simultaneously therewith), or may be welded or otherwise secured thereto.

The boat bottom consists of three boards **7**, **8** and **9**, successively placed in the same order, from stern to bow, onto the bottom plastics layer **10**, that is welded to sides **3**.

In more detail, the middle board **8** is formed with two narrow strips **11**, extending sidewise from the bottom edges thereof, while the two other boards **7** and **9** are secured in place by merely placing two further strips **12** on them, and clamping them by means of bolts **13**, that are passed therethrough, and which nuts can be tightened preferably by the same plug box wrench of outboard motor. By the application of no more than eight bolts, all bottom components can be safely secured in place, being firmly engaged in recesses as defined by the lower layer **10**, and by the lower edge of sides **3**.

Secured by the bolts **13** are also two tierods **14**, connected with the transom **4**, to thereby keep it in a nearly vertical position.

The assembling and operation of the boat according to the invention are apparent.

When the boat is disassembled, the boards **7**, **8** and **9** will rest the one on the others, while the deflated tubular body **1** can be conveniently folded, whereby the bulk of the whole is reduced to a wholly acceptable value.

The oarlock A substantially consists of a plastics- or like molded element, indicated in its entirety by numeral **101**, and that comprises a projection **102**, by which an elongated central bore **103** is defined.

The minor axis of said bore **103***a* is equal to, or slightly smaller than the diameter of oar to be placed in the oarlock, while the major diameter of same bore, is much greater than *a*, to allow for the to-and-fro motion of oar while rowing.

It is to be pointed out that the bottom edge of bore **103** is raised in respect of base plate **101**, whereby to prevent a possible rubbing of oar against same plate or boat upper edge, decreasing also the frictional resistance while rowing.

The oarlock is welded to envelope **104** of inflatable boat **1**, thereby securing said base plate **1** to the envelope. The base plate **1** is preferably welded to the outer surface of envelope; however, a welding to the inner surface thereof is also possible; in this case, a suitable opening is formed in the envelope, to allow the oarlock projecting portion to pass therethrough.

The support for the seat **205** substantially consists of a hollow, parallelepipedon shaped, frontally open body **201**, integrally plastics molded, and having a large flange-like projection **202**, round the front opening, as well as a number of intervening walls **203**, by which the inside of said body is subdivided into a row of recesses, arranged side by side, and having open front ends.

The end **205** of a board serving as a seat, which is subdivided by a plurality of notches **206**, into comb-like teeth **207**, can be engaged with such teeth into said recesses.

As it can be readily appreciated from what precedes, said support is secured to inflatable boat by having its flange **202** welded to envelope **208** of boat sides **3**. Same flange may be welded either to the outer side, or to inner side of said envelope, and in the latter case, a suitable opening will be formed therein, to allow the body **201** to pass therethrough.

The seat **205** can be fitted in place by merely having both opposite boat sides **3**, elastically moved apart from one another, whereafter the comb-like teeth **207** can be engaged into the recesses **204** of the two opposite supports.

I claim:

1. An inflatable boat comprising, in combination, a float including an envelope in the form of an inflatable tubular body made of plastics and defining the bow and sides of the boat, said sides extending to the region of the stern of the boat, a plastic strip extending between said sides at the region of said stern and being welded to said tubular body at said sides, said strip being formed with a groove, a substantially rigid transom for supporting an outboard motor, said transom having edges received in said groove of said strip, and said transom also being made of plastic, an elongated welding bead welding said transom to said strip, and an oarlock having a base plate welded to said envelope and carrying an upper projection of said oarlock, said projection being formed with an elongated bore having a substantially horizontal major axis and a substantially vertical minor axis, said minor axis being no greater than the diameter of an oar to be received in said bore to be elastically retained by said oarlock, and said major axis being larger than the oar diameter to provide for free movement of the oar while rowing, said board having a lower edge situated at an elevation higher than that of said base plate.

2. An inflatable boat comprising, in combination, a float including an envelope in the form of an elongated inflatable tubular body made of plastic and defining the bow and sides of the boat, said sides extending to the region of the stern of the boat, an elongated plastic strip extending between said sides at the region of said stern and welded to said sides, said strip being formed with a groove, a substantially rigid transom having edges received in said groove, said transom also being made of plastic, an elongated welding bead welding said transom to said strip, a seat support situated at each of said sides and consisting of a hollow body open at one end and having a flange welded to said envelope, said hollow body carrying walls dividing the interior thereof into parallel recesses open at said end of said hollow body, and a seat in the form of a board provided at each end with comb-like teeth received in said recesses so that said board is supported by said seat supports.

References Cited

UNITED STATES PATENTS

2,949,616 8/1960 Desanges.

FOREIGN PATENTS

1,353,321 1/1964 France.

OTHER REFERENCES

Popular Mechanics, vol. 121, No. 5, May 1964, p. 112 relied on.

TRYGVE M. BLIX, *Primary Examiner.*