Oct. 20, 1942. E. DORMOY 2,299,131

COLLAPSIBLE BOAT

Filed May 17, 1941

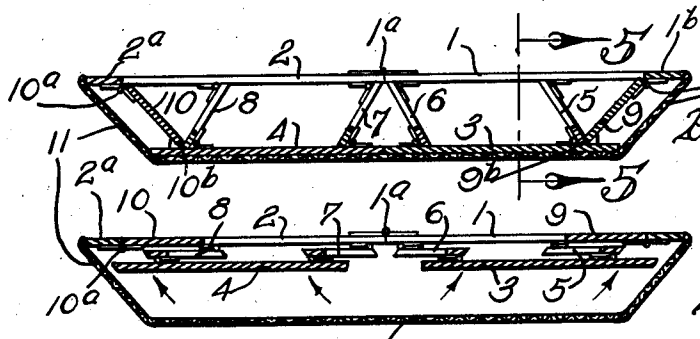


Fig. 2.

Fig. 3.

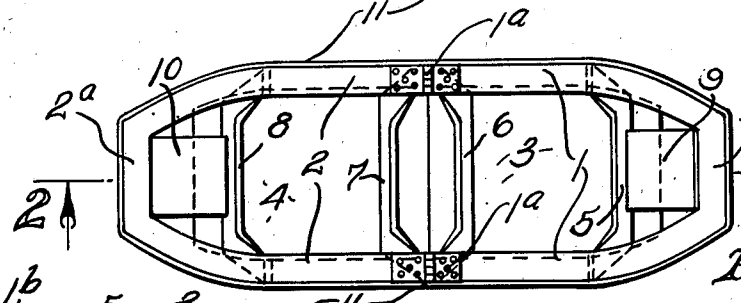


Fig. 1.

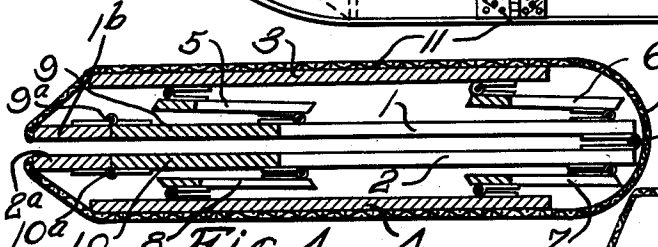


Fig. 4.

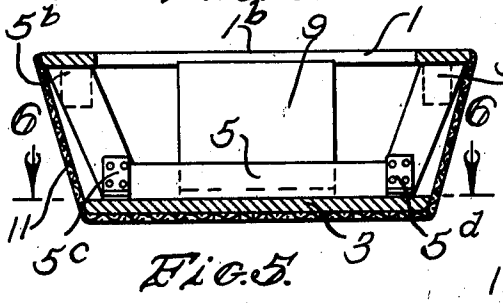


Fig. 5.

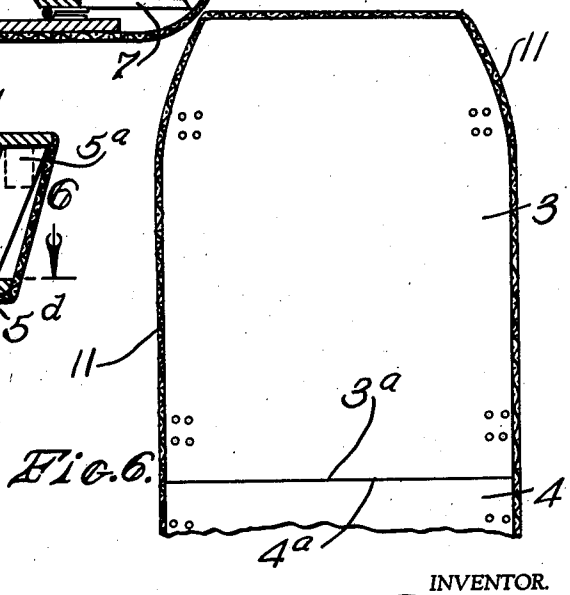


Fig. 6.

INVENTOR.

BY Etienne Dormoy

A. B. Bowman

ATTORNEY.

Patented Oct. 20, 1942 2,299,131

UNITED STATES PATENT OFFICE

2,299,131

COLLAPSIBLE BOAT

Etienne Dormoy, San Diego, Calif.

Application May 17, 1941, Serial No. 393,972

7 Claims. (Cl. 9—2)

My invention relates to a collapsible boat, more particularly a fabric covered boat having a retractible bottom and a foldable frame in which the fabric covering remains on the foldable frame when said bottom is retracted and when said frame is folded and the objects of my invention are:

First, to provide a highly practical, readily and easily collapsible boat of this class which is completely assembled when in folded condition;

Second, to provide a collapsible boat of this class which is very light and strong in proportion to its size;

Third, to provide a collapsible boat of this class in which an open outline frame at the upper side of said boat is arranged in pivotally connected relation with the flat bottom members of my boat by angularly disposed substantially U-shaped members providing rigidity, neat construction and reliability of my collapsible boat;

Fourth, to provide a collapsible boat of this class in which the bottom members of my boat are held in extended position with the upper frame members by means of combined pivoted bracing and latch members, which bracing and latch members are readily and easily pivoted for quickly and neatly collapsing my collapsible boat whereby all parts of the same remain in proper connected relation;

Fifth, to provide a collapsible boat of this class in which the bottom members are shifted into close relation with the upper frame members and the upper frame members are folded at substantially the middle portion of my collapsible boat maintaining normal connected relation of all the parts of the same including the boat skin;

Sixth, to provide a novel collapsible boat of this class which may be folded into very compact form for transportation; and

Seventh, to provide a collapsible boat of this class which is very simple and economical of construction, efficient, durable, safe and which will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawing and to the characters of reference thereon which form a part of this application in which:

Figure 1 is a top or plan view of my collapsible boat shown arranged ready for use; Fig. 2 is a longitudinal sectional view thereof taken from the line 2—2 of Fig. 1; Fig. 3 is a similar longitudinal sectional view of my collapsible boat to that as shown in Fig. 2 showing the bottom members thereof in retracted position; Fig. 4 is an enlarged sectional view of my collapsible boat taken on the same plane as Fig. 3 showing the bottom members in retracted position and the upper frame members folded against each other; Fig. 5 is an enlarged transverse sectional view taken from the line 5—5 of Fig. 2; and Fig. 6 is a fragmentary plan sectional view taken from the line 6—6 of Fig. 5.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawings;

The upper frame members 1 and 2, bottom members 3 and 4, pivoted frame members 5, 6, 7 and 8, combined bracing latch members 9 and 10 and the boat skin 11 constitute the principal parts and portions of my collapsible boat.

The upper frame members 1 and 2 are substantially U-shaped frame members arranged in pivotally connected relation with each other by means of the hinges 1*a*, as shown best in Fig. 1 of the drawing. These upper frame members 1 and 2 are secured together by the hinges 1*a* in adjacent relation to each other at their open ends.

It will be noted that the closed end portions 1*b* and 2*a* respectively, may be formed or constructed in various shapes, as desired.

As shown in Figs. 1 and 2 of the drawing, the bottom members 3 and 4 fit closely together in opposed relation to each other at substantially the middle portion of my collapsible boat. When the bottom members 3 and 4 are in the retracted position, as shown in Fig. 3 of the drawing, the adjacent end portions thereof are in spaced relation to each other. As shown in Fig. 6 of the drawing, the end portion 3*a* of the bottom member 3 and the end portion 4*a* of the bottom member 4 fit closely together forming an abutment for each other. Each of these bottom members 3 and 4 is provided with an opposite end portion which conforms substantially to the shape of the closed end portions of the upper frame members 1 and 2. These bottom members 3 and 4 are preferably solid plate like members, as shown in Fig. 3 of the drawing and they may be made of any suitable material. These bottom members 3 and 4 form a solid bottom for my collapsible boat on which persons may stand when in my collapsible boat.

It will be noted that these bottom members

3 and 4 are substantially coextensive with the entire bottom area of my collapsible boat.

The pivoted frame members 5, 6, 7 and 8 are arranged to interconnect the upper frame members 1 and 2 with the bottom members 3 and 4. The pivoted frame members 6 and 7 are pivotally interconnected with the upper frame members 1 and 2 respectively near the hinge 1*a*. As shown in Fig. 2 of the drawing, these pivoted frame members 6 and 7 diverge from the hinges 1*a* to the bottom members 3 and 4 respectively to which they are pivotally connected.

It will be here noted that I prefer using substantially conventional hinges to interconnect the pivoted frame members 5, 6 7 and 8 with the upper frame members 1 and 2 and the bottom members 3 and 4.

As shown in Fig. 2 of the drawing, the pivoted frame member 8 is in conforming angular parallel relation with the pivoted frame member 7 and these pivoted frame members 7 and 8 are each connected by means of hinges intermediate the upper frame member 2 and the bottom member 4.

The pivoted frame members 5 and 6 are arranged in similar angular parallel relation with the upper frame member 1 and the bottom member 3, except that the pivoted frame members 5 and 6 are arranged in downwardly diverging relation with the pivoted frame members 7 and 8, all as shown best in Fig. 2 of the drawing.

As shown in Fig. 5 of the drawing, the pivoted frame member 5 is substantially U-shaped and this pivoted frame member 5 is provided with two upwardly extending end portions 5*a* and 5*b* which are connected with opposite sides of the upper frame member 1 by means of hinges. This pivoted frame member 5 is connected with the bottom member 3 near its opposite sides by means of the hinges 5*c* and 5*d*, all as shown best in Fig. 5 of the drawing. It will be here noted that the pivoted frame members 6, 7 and 8 are substantially the same in construction as is the pivoted frame member 5, as hereinbefore described.

The bracing latch members 9 and 10 are secured in connection with the closed end portions 1*b* and 2*a* respectively of the upper frame members 1 and 2 respectively, as shown best in Figs. 1 and 2 of the drawing. These bracing latch members 9 and 10 are secured in pivotal connection with the upper frame members 1 and 2 by means of the hinges 9*a* and 10*a* respectively. As shown in Fig. 3 of the drawing, the bracing latch members 9 and 10 are shifted into substantially horizontal alignment with the upper frame members 1 and 2 when the bottom members 3 and 4 are retracted.

The boat skin 11 is preferably made of flexible material, such as rubber, canvas or the like and this boat skin 11 is tailored to fit the upper frame members 1 and 2 and the bottom members 3 and 4 in substantially the relation, as shown in Figs. 2 and 5 of the drawing. This boat skin 11 is secured to the outer edge portions of the upper frame members 1 and 2 and remains in connected relation with the upper frame members 1 and 2 when my collapsible boat is collapsed in substantially the relation, as shown in Fig. 4 of the drawing. All of the parts hereinbefore described which form the structure of my collapsible boat remain in secure connected relation with each other when my collapsible boat is in collapsed form, as shown in Fig. 4 of the drawing.

The operation of my collapsible boat is substantially as follows: When my collapsible boat is in the form shown in Figs. 1 and 2 of the drawing, and it is desired to collapse the same, the bracing latch members 9 and 10 are first shifted into the position shown in Fig. 3 of the drawing. The bottom members 3 and 4 are then retracted to the position shown in Fig. 3 of the drawing, and the upper frame members 1 and 2 are pivoted upwardly toward each other by means of the hinges 1*a* so that my collapsible boat assumes the form substantially as shown in Fig. 4 of the drawing. It will be here noted that the shiftable end portions 9*b* and 10*b* of the bracing latch members 9 and 10 form an abutment for the pivoted frame members 5 and 8 respectively tending to hold the bottom members 3 and 4 in abutted relation to each other, substantially as shown in Fig. 2 of the drawing maintaining my collapsible boat ready for use in the form substantially as shown in Figs. 1 and 2 of the drawing.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to this particular construction, combination and arrangement, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a collapsible boat of the class described, the combination of a pair of upper frame members pivotally connected with each other at substantially the middle portion of said boat and forming the outline shape thereof, pivoted frame members pivotally connected with each of said upper frame members and separate bottom members connected with said pivoted frame members and arranged in abutted relation with each other at substantially the middle portion of said boat.

2. In a collapsible boat of the class described, the combination of a pair of upper frame members pivotally connected with each other at substantially the middle portion of said boat and forming the outline shape thereof, pivoted frame members pivotally connected with each of said upper frame members and separate bottom members connected with said pivoted frame members and arranged in abutted relation with each other at substantially the middle portion of said boat, said pivoted frame members extending in opposed diverging relation with each other toward said bottom members at opposite sides of the middle portion of said boat.

3. In a collapsible boat of the class described, the combination of a pair of upper frame members pivotally connected with each other at substantially the middle portion of said boat and forming the outline shape thereof, pivoted frame members pivotally connected with each of said upper frame members and separate bottom members connected with said pivoted frame members and arranged in abutted relation with each other at substantially the middle portion of said boat, the pivoted frame members in connection with one of said upper frame members arranged in diverging extended relation toward said bottom members relatively with the pivoted frame members in connection with the other upper frame member.

4. In a collapsible boat of the class described, the combination of upper frame members hinged together at the middle of said boat and folded against each other, a bottom member in adjacent connected relation with each of said upper frame members, pivoted frame members interconnect-

ing each of said upper frame members with one of said bottom members and a pliable boat skin secured to the outer edges of both of said upper frame members.

5. In a collapsible boat of the class described, the combination of a pair of upper frame members pivotally connected with each other at substantially the middle portion of said boat and forming the outline shape thereof, pivoted frame members pivotally connected with each of said upper frame members and separate bottom members connected with said pivoted frame members and arranged in abutted relation with each other at substantially the middle portion of said boat, said pivoted frame members being substantially U-shaped in form and extending across said bottom members.

6. In a collapsible boat of the class described, the combination of upper frame members pivotally connected together at substantially the middle portion of said boat and foldable against each other, a bottom member secured in parallel shiftable connected spaced relation with each of said upper frame members and retractable into adjacent relation therewith.

7. In a collapsible boat of the class described, the combination of upper frame members pivotally connected together at substantially the middle portion of said boat and foldable against each other, a bottom member secured in parallel shiftable connected spaced relation with each of said upper frame members and retractable into adjacent relation therewith, and a boat skin secured to the outer edges of both of said upper frame members and positioned in adjacent relation with the bottom sides of said bottom members.

ETIENNE DORMOY.