May 21, 1968 H. H. VAN DER HEIDE 3,383,719

COLLAPSIBLE BOAT

Filed Sept. 6, 1966 3 Sheets-Sheet 1

Fig. 1.

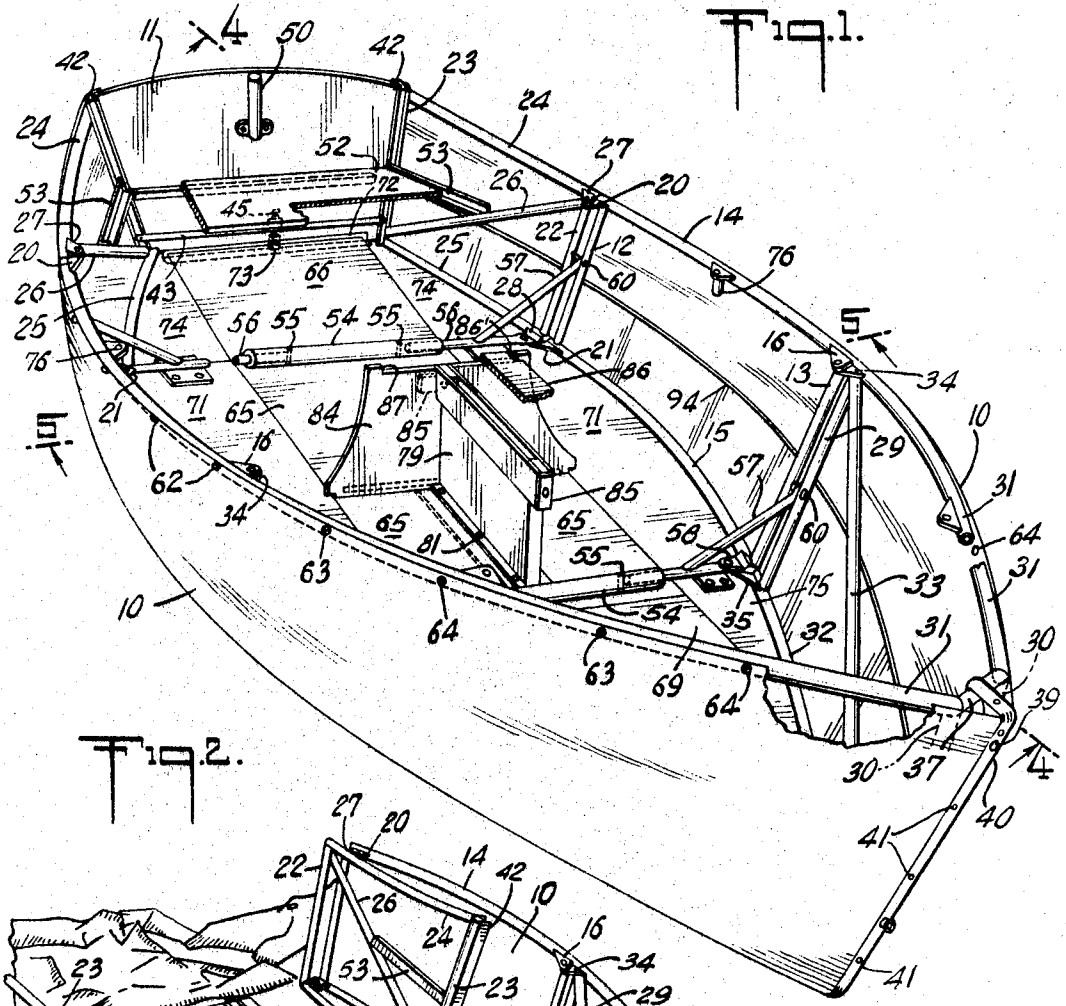


Fig. 2.

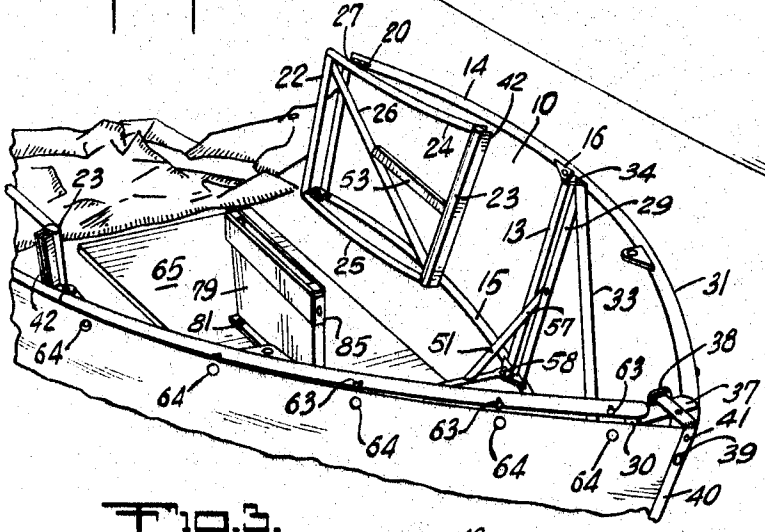
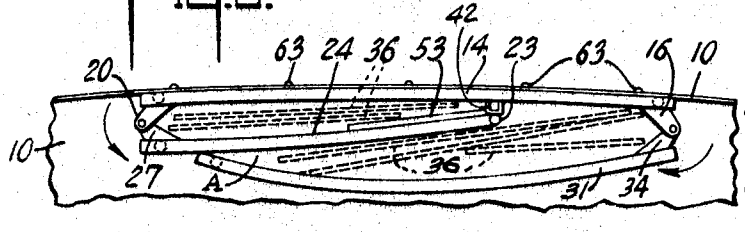


Fig. 3.



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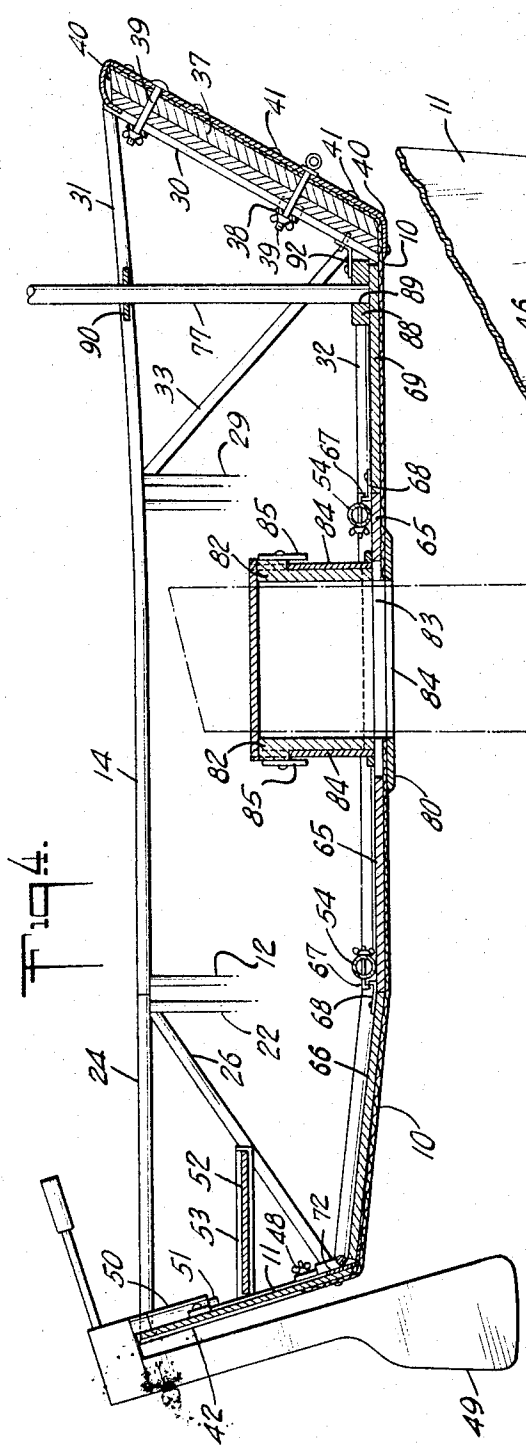


Fig. 4.

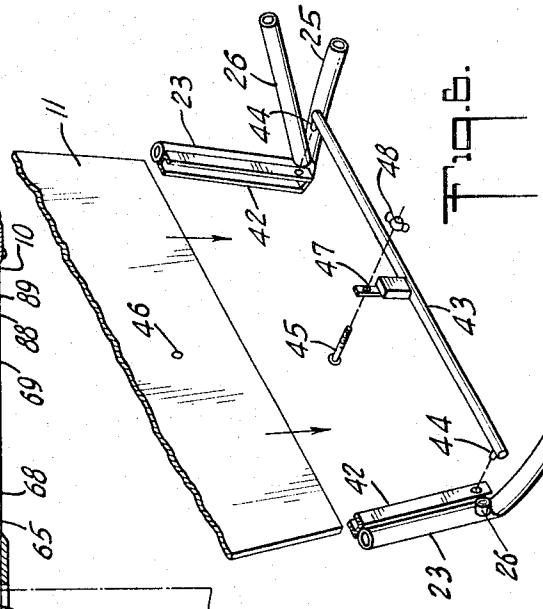


Fig. 6.

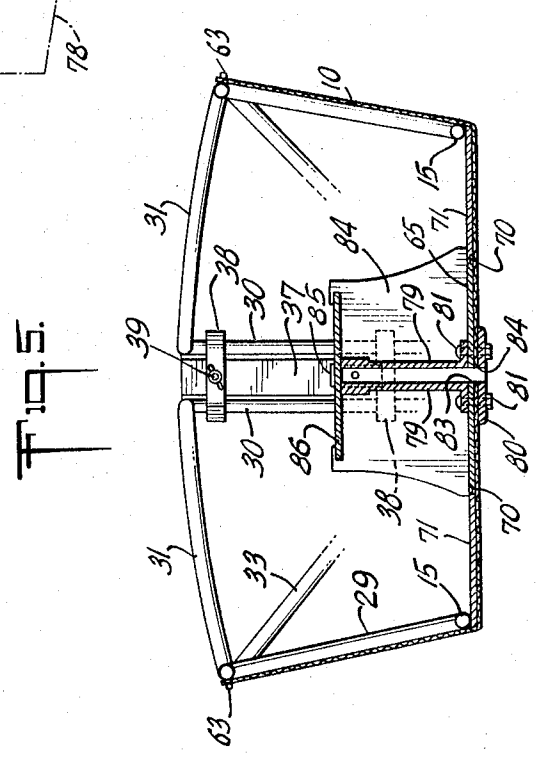


Fig. 5.

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COLLAPSIBLE BOAT

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Fig. 7.

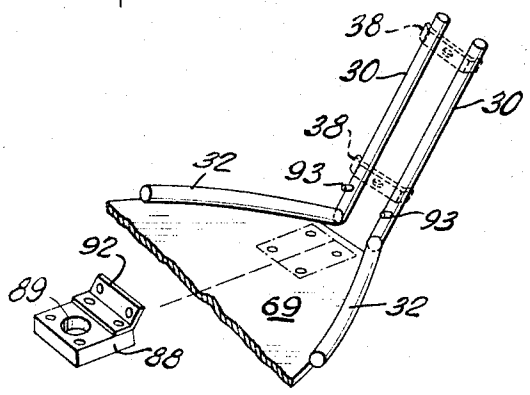


Fig. 8.

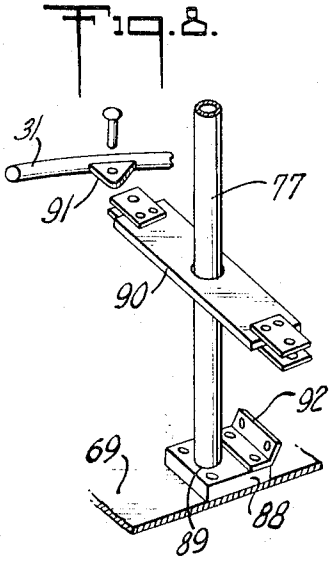


Fig. 9.

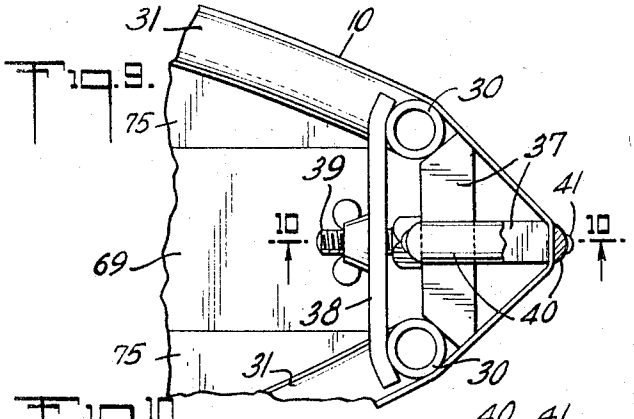


Fig. 10.

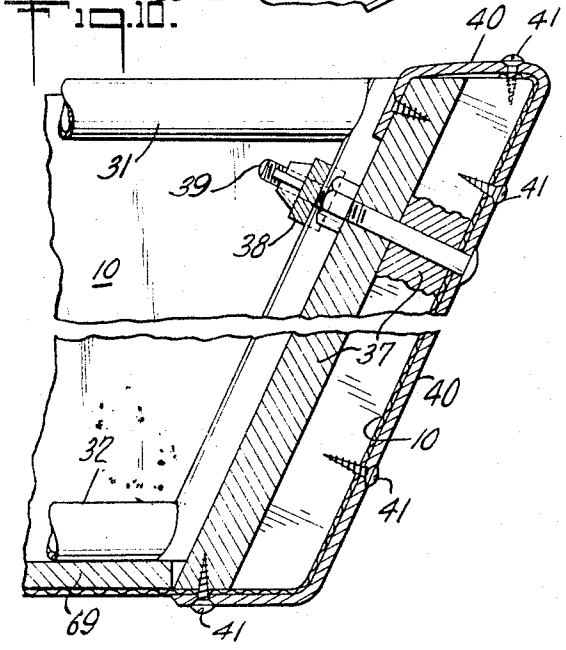
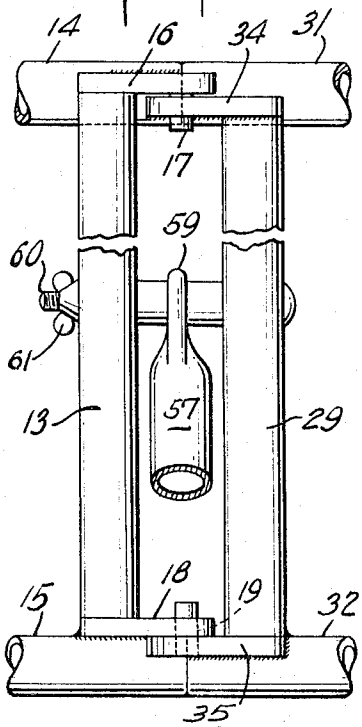


Fig. 11.



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3,383,719

COLLAPSIBLE BOAT

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Filed Sept. 6, 1966, Ser. No. 577,222
11 Claims. (Cl. 9—2)

ABSTRACT OF THE DISCLOSURE

A collapsible portable boat having a hull including a frame and a unitary flexible skin thereon of tough sheet material, which frame comprises an intermediate section, a forward section hinged to the forward end of said intermediate section, a rear section hinged to the rear end of said intermediate section, and transverse struts for retaining said frame sections in operative position when the boat is in extended condition for use, said frame sections, struts and skin being foldable into a relatively compact assembly when the boat is in collapsed or non-operative condition for storage or transportation.

Although boats of the foldable portable type are known, in general, their construction has been such as to materially limit their acceptability.

An object of this invention has been to provide a lightweight yet durable boat or craft of the dinghy type which can be made at reasonable cost and which embodies frame and skin and other parts capable of being assembled and, at will, disassembled, e.g., by folding into a compact easily portable pack, and of readily being extended and reassembled for floating and load sustaining.

My invention provides a boat frame construction which can effectively employ lightweight tubing, e.g., aluminum magnesium, or like alloy, and an appropriate durable yet lightweight fabric cover, advantageously a single unit, which provides side, bottom and stern wall portions of the craft when the frame is extended in operative condition for use.

In general, a collapsible portable boat embodying my invention comprises an articulated skeleton frame advantageously formed of lightweight metal tubular parts or of preformed Fiberglas reinforced plastic parts, or of other suitable lightweight material, and a waterproof flexible cover thereon providing in a single continuous unit the bottom, stern and side walls of the boat. Said frame includes two side members each comprising a middle side section, an after side section hinged to the rear end of said middle section and foldable inwardly and forwardly across said middle section, and a bow sides section hinged to the forward end of said middle section and foldable inwardly and rearwardly to a position in overlapping relation to said after section when the latter is in folded condition. Each of said sections has longitudinally extending, vertically spaced, rigidly interconnected top and bottom tubular frame members.

Other objects and distinctive features of my invention will appear from the following description and claims and the accompanying drawings, wherein I have described and shown a preferred embodiment intended to illustrate the invention and to aid others in understanding its principles so that they can embody it in such form or forms as may be best suited to the conditions of each particular use.

In said drawings:

FIGURE 1 is a view in perspective, taken from above the starboard bow looking aft of a collapsible boat embodying the invention and with the frame, floor and cover extended in operative relations.

FIGURE 2 is a fragmentary view broader on the starboard bow and showing portions of the boat of FIGURE 1 in partly collapsed condition, i.e., with certain floor board parts removed; with the after sections of that frame folded inwardly and forwardly over portions of the adjoining middle frame sections and with rear parts of the flexible cover disengaged from portions of the frame.

FIGURE 3 is a fragmentary top plan view of a midship portion of the boat of FIGURE 1, showing an after section folded inwardly and forwardly over a midportion of the frame, and a bow section folded inwardly and rearwardly so as to overlap portions of the after section in a manner to provide storage space between said frame sections.

FIGURE 4 is a central longitudinal vertical section of the boat shown in FIGURE 1.

FIGURE 5 is a transverse vertical section on the line 5—5 of FIGURE 4.

FIGURE 6 is a fragmentary view in perspective of a portion of the hull structure at the stern, showing the stern board withdrawn upwardly from engagement between the stern ends of the after side frame sections.

FIGURE 7 is a fragmentary view in perspective showing the frame and floor board arrangement at the bow.

FIGURE 8 is a fragmentary view showing an arrangement of floor board, frame and bracing means for stepping the mast indicated in FIGURE 4.

FIGURE 9 is a fragmentary top plan view showing details of the bow construction.

FIGURE 10 is a longitudinal vertical section on the line 10—10 of FIGURE 9 with the central portion between floor and rail broken away and the lower portion shifted forward to bring the sloping bow into line.

FIGURE 11 is a fragmentary view, partly in section and on enlarged scale, showing hinge connections between adjoining frame sections, and bracing means tending to retain said uprights in operative position against inwardly directed pressure on the boat hull.

As seen in the drawings, a skin 10 of suitable flexible waterproof fabric is tailored to fit on and over a skeleton shown as comprising principally a transom 11 and two composite side frame units, each including a middle section, an after section and a bow section. The middle frame section comprises upright end pieces or posts 12 and 13 (FIGURE 1) rigidly secured to rail or gunwale 14 and to the bottom stringer or chine 15.

An inwardly extending upper hinge arm 16, as seen most clearly in FIGURE 11, is secured, as by welding, to the forward end of rail 14 and at the top end of post 13 of said middle frame section. Said upper hinge arm 16 is provided with a downwardly projecting pintle 17. A lower inwardly extending hinge arm 18 is secured, e.g., by welding, at the front end of chine 15 and at the bottom end of post 13. Said lower hinge arm 18 is provided with a hole 19 coaxial with pintle 17 of the upper hinge arm 16. In a similar manner, rail 14 (FIGURE 1) is provided at its after end with a hinge arm 20 having a pintle; and chine 15 is provided with a lower hinge arm 21 at its rear end which has a pintle-receiving hole or socket coaxial with said pintle on upper hinge arm 20.

The after frame section comprises longitudinally spaced posts 22 and 23 rigidly secured to rail member 24 and a chine or bottom stringer 25 and a diagonal brace 26 rigidly secured between an upper portion of post 22 and a bottom portion of post 23 or an after portion of chine 25.

An inwardly extending upper hinge arm 27 (see FIGURE 1) corresponding to arm 16 on post 13 (see also FIGURE 11) has its downwardly directed pintle, secured at the forward end of top rail member 24 and at the top end of post 22 of said after frame section.

A lower hinge arm 28 having a pintle-receiving hole, or socket, extends inwardly from chine 25 and operatively engages lower hinge arm 21 of the mid frame

section in such position that the pintle on said lower hinge arm **21** extends upwardly through said hole in lower hinge arm **28**. The pintle on upper hinge arm **27** extends downwardly through the hole or socket in upper hinge arm **20** of the middle frame section.

The bow section of the frame comprises longitudinally spaced posts **29** and **30** (FIGURES 4, 5 and 7) rigidly secured, e.g., by welding or brazing, to the forward rail member **31** and to the forward chine **32**, and a diagonal brace **33** similarly secured between an upper portion of post **29** and a lower portion of post **30**. Appropriate hinge arms, as upper arm **34** and lower arm **35** are arranged and adapted for co-operation, respectively, with upper hinge arm **16** and lower hinge arm **18**, FIGURE 11, of the middle frame section. Thus, the mid and bow frame sections are operatively connected by hinges **16**, **34** and **18**, **35**; and by the hinges **27**, **20** and **28**, **21**.

From the foregoing it appears, as seen in FIGURE 3, that when the frame parts are in folder or collapsed condition, the after frame section is, in effect, positioned or nested between the mid frame section and an adjoining bow frame section. It is noted further that the space A between said after section and said bow section when folded may advantageously be employed for storage of accessories or parts, as floor boards, panels or plates indicated schematically in dotted lines at **36**, FIGURE 3, when the parts including the cover are assembled and packed.

It will be understood that, although the description thus far is directed primarily to structural features of one of the two principal frame elements, substantially the same structure is duplicated on the other side. As seen in FIGURE 1, these elements are operatively connected at their bow ends and at their stern ends to provide a basic framework or skeleton for supporting the skin **10** in its extended operative condition.

As seen in FIGURES 7, 9 and 10 the bow end of the frame includes the posts **30**, which are releasably secured together and to a stem **37** by means including clamps **38** and bolts **39**, the latter extending through said stem **37**. The bow portion of skin **10** is permanently secured to the front end edge of stem **37**, conveniently by a cleat **40** and screws **41**. Thus, when the boat structure is to be collapsed or folded, the forward posts **30** of the frame are freed from the stem **37** and the bow end of the skin **10** by slacking off the wing nuts on bolts **39** and swinging clamps **38** out of clamping engagement with said posts **30**.

As seen more clearly in FIGURES 1, 4 and 6, the after posts **23** include channels **42** arranged and adapted removably to receive end portions of said transom **11** which is releasably held in operative position by suitable means shown as including a transverse brace **43** having end lugs **44** removably engaged with holes at the lower ends of channels **42**. A midportion of brace **43** is releasably connected with transom **11** by a bolt **45** extending through a hole **46** in said board and a hole **47** in a bracket on brace **43**. Thus, when the frame parts are assembled with wing nut **48** tightened on bolt **45**, stern board **43** releasably connects the rear ends of the frame elements and provides a rigid support for stern end portions of skin **10**.

As seen in FIGURES 1 and 4, a tiller **49** is mounted to swing said transom **11**. For this purpose a bracket on said board provides a socket **50**, which receives a spindle **51** extending downwardly from the handle assembly of said tiller **49** into the bearing socket **50**.

Also, as seen in FIGURES 1 and 4, a removable stern seat **52** is conveniently supported on angle bars **53** forming part of the after frame sections and being secured at their ends between vertical channel bars **42** and braces **26** of said respective sections. This board may be made of shape and size to serve as a centerboard when needed and may, instead of being rigidly secured in place, be held by a flexible strap or chain positioned and adapted to allow the seat board to be inserted into the centerboard trunk, but yet be held so it can't slide on through the trunk nor be caught by the wind or a wave and lost overboard.

Suitable bracing means are provided to releasably maintain the above-described frame sections at one side of the craft in operative transversely spaced relation to the corresponding sections at the opposite side thereof when the frame is in extended condition.

For this purpose, a brace assembly, FIGURE 1, is operatively mounted between upright pieces **22**, **12** of one frame and their counterparts in the frame at the opposite side of the craft. Similarly, another brace assembly is located between upright pieces **13**, **29** of one frame and their counterparts in the opposite frame. Advantageously the parts of one such brace assembly will be interchangeable with like parts of the other. Accordingly, each transverse brace assembly conveniently includes an open end tube **54** provided with stop pins **55** extending across its interior. Interposed between said tube **54** and said upright frame pieces is a rigid connector including rod **56** and diagonal arm **57**. The inner end of rod **56** is coaxially engaged in the open end portion of tube **54** to an extent limited by stop pin **55**. The outer end of rod **56** is releasably connected to the frame. For this purpose, as seen in FIGURE 1, said outer end is flattened and provided with a hole **58** which receives a stud or pintle projecting upwardly from a hinge plate at the base of the upright pieces, as **12**, **22** and **13**, **29** and shown as hinge pintle **19** carried by hinge plate **35**, FIGURE 11. The outer end of arm **57** has a flattened end portion **59** provided with a hole for receiving a bolt or pin **60** which passes through and is supported in coaxially aligned holes in the upright pieces **13**, **29** where it is releasably retained by wing nut **61**.

When the above-described brace parts are in operative bracing condition, they may readily be disassembled by removing bolts **60** which releases arm **57** and permits disengagement of the outer end of rod **56** from pintle **19**, for example.

In the illustrated embodiment, opposed midportions of the cover **10** are permanently secured at their top edges to the opposed middle frame sections by suitable fastening means **62**. Other side portions of skin **10** are conviently releasably attached at their upper edges to upper pieces of the rear and front frame sections as by snap fasteners including studs **63** on top piece **31** and eyelets **64** in the cover. It thus appears that skin **10** is permanently attached to the middle frame sections and to the bow post and is releasably attached to the front and rear frame sections and to the stern board, which secures the frame members in their desired relation.

A craft according to my invention is advantageously fitted with suitable floor boards conveniently in the form of laminated wood panels of such sizes and contours that when not in use, they may be stored and/or transported in space A, FIGURE 3. Said floor boards or plates shown, collectively, as **36**, FIG. 3, include more specifically a central panel **65** the bottom surface of which is permanently secured to the cover **10** by suitable means, advantageously a waterproof adhesive. As seen in FIGURE 4, the after edge of central floor panel or plate **65** is engaged with the forward edge of an after floor panel or plate **66** where it is releasably secured by a hook **67** operatively mounted in tubular base **54** and co-operating with a clamp **68** on said floor panel part **66**. This is shown as a screw clamp with wing nut, but this is representative of a class of tightening fasteners, which includes also notably toggle fasteners such as are used on galoshes or those on folding automobile tops. A similar joint and releasable connection is provided between the forward end of central floor panel **65** and the rear edge of forward floor panel **69**, FIGURE 4, which provides the bow end of the flooring.

These flooring boards or plates provide a back up sup-

port for the skin so that the hull will not be distorted by the weight of a man standing on it or by articles carried in the hull. Moreover, such backup distributes the stress of any load or impact so as to protect the skin against excessive distortion, puncture and tear. Similar backup support panels may be used on the top sides also if desired.

Central panel **65**, rabbeted along its lateral edges at **70**, is flanked by lateral floor panels **71**, also rabbeted, so that the longitudinal edge flanges of said lateral panel parts **71** rest on adjoining longitudinal edge flanges of central panel **65**, FIGURE 5. The outer longitudinal edges of said lateral panel parts **71** when in operative assembled condition extend under and are retained in place by the chine stringers **15**; and the rear and forward ends of said lateral floor panels are held in position by the transverse braces **54**, FIGURE 4.

The after end of floor panel **66** is supported when the parts are assembled for use, on an angle bar **72** mounted on transom **11** where it is locked releasably under brace **43**. Said floor panel **66** is advantageously rabbeted along its longitudinal outer edges to mate with the rabbeted longitudinal inner edges of co-operating lateral floor panel **74** arranged with their rear ends retained between brace **43** and the cover and with their outer longitudinal edges retained between the fore chine stringers **25** and the skin.

It is noted that the bow portion of the floor is conveniently supplied by said panel **69** and lateral panels **75** the outer edges of which, when assembled, are retained between the converging ends of mid chine stringers **32** and the skin **10**.

The above description is essentially that of a dinghy or rowboat-type craft which may advantageously be equipped with oarlock sockets **76** mounted on the rails **14** of the middle frame section. Where the craft is to be operated as a sailboat, FIGURES 4 and 8, a suitable mast **77** is provided, and ordinarily a centerboard, as **78**, FIGURE 4, which is retractable into a suitable trunk or housing including spaced upright side walls **79**, FIGURE 5, which are permanently secured to floor panel **65** and skin **10** by a cleat **80** and bolts **81**. The longitudinally spaced end walls, or head ledges **82** and laterally spaced side walls **79** of the centerboard trunk form a passageway communicating with an elongated opening **83** in central floor panel **65** and a similar registering opening in cleat **80**, providing in effect a continuous centerboard receiving a passageway or well. Thus, when the parts are assembled, one end of the centerboard **78** (which is in practice advantageously the seat thwart **52**) is thrust through said well to float loosely with its upper end extending above the open upper end of the well and its lower end submerged enough to operate as a centerboard. It may be secured at any desired depth by a hole in the trunk **79** and a pin into hole or holes in the board.

As seen in FIGURES 1 and 4, the centerboard trunk is advantageously braced against lateral tilting by braces **84**, one at each end, which are releasably secured in operative position by latches **85**. Said braces may conveniently be adapted to support a removable seat, at **86** shown broken away, but as all quarters are substantially identical, its form and use will be clear. This seat is arranged in use with end portions engaged in cutaway parts between lugs **87** at the top edges of said braces **84**, and with lugs **87** on the braces beyond the cutouts being fitted into slots **86'** in the seat.

The braces **86** are sufficiently broad at their bases to overlap onto adjacent floor boards and keep the points flush.

In FIGURES 4 and 8, the mast **77** is shown as stepped adjacent to the bow end of the boat, as by a block **88** having a hole **89**, which serves as the step to secure the bottom of mast **77**, and by a transverse mast bench **90** releasably supported at its ends on brackets **91** extending inwardly from the fore rail member **31**. Step **88**, which is secured to floor panel **69** is conveniently connected to the fore posts **30** of the frame by a latch plate **92** having holes positioned to embrace studs **93** on upright pieces **30** when the parts are operatively assembled.

For additional protection to side portions of cover **10**, i.e., to resist tears or punctures, a supplemental wall **94**, FIGURE 1, of flexible plywood, or the like, is inserted between the frame sections and skin **10** with the lower edge portions of wall **94** engaged between lower frame pieces **25**, **15** and **32** and said wall being of a width corresponding generally to the depth at which the loaded hull rides in operation. It is contemplated that the safety wall will extend approximately across the zone in which injury to the hull from submerged obstacles can be expected. It will also be understood that the wall reinforcing boards **94** may be omitted when the boat is to be employed only in waters which are known to have no sunken or submerged obstacles. Also boards **94** may be extended upward to the top of the frame and form a complete side wall.

The boat is supplied disassembled, folded and packed in a bag. When it is to be put into use the following procedure will be followed:

A. Open bag and take out all the pieces.

B. Set the aluminum frames upright. As much as possible of the flexible sheet cover should show between frames and wooden center piece **65**. Then unfold frames.

C. Place bow sections of aluminum frame against sides of wooden stem **37** (which is attached to cover). The stem should be twisted to allow the frames to pass by clamps and wing nuts **38**. Do not tighten wing nuts now.

D. The stern sections of the aluminum frame are attached to the cover by hooking the brass eyes **64** in the skin over the stud heads **63** in the aluminum frame.

E. The wooden sections may now be put in place.

F. We start with the side braces **57** (two of each) and notice that forward brace has a shorter bottom section than after brace.

G. Notice that centerboard trunk section **65** is permanently fixed to the skin below the centerboard trunk, but can be lifted up sufficiently to insert the side braces **57**. Also notice that tubes **54** are fast to floor panel **65**. Then insert forward braces in this section. Then lower each brace over pin **58** and pin the upright part of brace to side posts **13**, **29** by inserting and fastening pin **60**. Do the same on other side **12**, **22**. It is important first to insert the two braces **57** into tubes **54** before lowering them over the pins **58**.

H. Insert after braces **57** into tubes **54** on center bottom section **65**. Then lower one brace over pin **58** and pin to upright at **60** and repeat same on other side.

I. Transom **11** is then slid down in the stern channels **42** and pushed down as low as possible.

J. After floor board section **66** is put in place and the hook **67** with wing nut, attached to the mid section **65**, is tightened over the lip protruding from the fore section. (See FIGURE 4.)

K. Bow center bottom section **69** is put in place by first sliding the angle **92** with the two holes over the pins **93** protruding from the stem **30** of each aluminum frame. Then the center section **69** is lowered into place and the hook **62** is tightened over the lip.

L. We now have to tighten the clamps **38** on the stem. First, push down the aluminum side frames as much as possible so that the rub rail is above the frame. This will also stretch the cover and remove wrinkles. Then tigthen nuts.

M. Lift starboard side of boat off the ground and slide the mid starboard floor panel **71** under the aluminum frame. Do the same for portside. Twist clamps **67** mounted on center section so that they overlap side sections.

N. Side panels at after section are inserted by first sliding under side brace **57**, then over the next forward section, and it is then fitted under the aluminum side frame. This is done on both sides.

O. The lateral bow floor panels are then slid under

brace 57, then over the adjacent side panel of the mid section and then fitted under the side frame. Both sides.

P. Cross brace 43 has two pins. These are fitted in holes drilled in the channels 42 of each side frame and the wing nut 48 is tightened.

Q. Mast bench 90 can then be mounted by inserting pins 95. One pin is longer and acts as a belaying pin for the halyard.

R. Put seat supports 84 in place with slotted bottom in front of centerboard trunk. The other seat support 84 fits on the back of trunk 82. Seat 86 is put on top of the trunk. A rope may be kept in eyelet of seat 86 so that it will not be lost.

S. Stern seat 52 rests on aluminum supports 53 on each side of stern section.

Note.—When sailing one does not need seat 86 and even if it is used, one will need only one seat support 84. These seat supports are kept in order to give added strength to centerboard trunk. Neither does one need stern seat 52 when sailing, and this seat board can be removed and used as a centerboard. Insert end of halyard through hole in board 52 and tie a knot. This will prevent the centerboard from sliding down into the water.

T. Step mast in place, bend sail onto it, then raise (i.e., lengthen the mast). To lengthen mast twist aluminum counterclockwise, pull out telescopic tubing and then lock pieces in place by turning them clockwise. There are three sections.

U. Fit boom in clawpin which is fastened to sail. The sheet is put through hole at end of boom and a knot is tied in the sheet as close to boom as possible. This way the sheet also acts as an outhaul.

V. Oars can be made out of telescopic metal tubing and are lengthened like mast.

W. If the skin should be damaged it is easily repaired by cementing a patch on INSIDE of cover. If this is carefully done, the patch will be invisible.

What is claimed s:

1. A collapsible portable boat which comprises a unitary flexible skin of tough sheet material having high resistance to tensile stretching and high resistance to puncture and tear, said skin having the shape of the hull of the assembled boat, a frame comprising two composite side frame units, means for operatively connecting said units at their bow and stern ends, respectively, a stem at the bow ends, each said unit including a rigid middle section having a rear upright post and a forward upright post, a rigid after section hinged to swing on a vertical axis in relation to said rear post, and a rigid bow section hinged to swing on a vertical axis in relation to said forward post, portions of said skin being permanently attached to said middle sections and other portions to said stem, said sections being adapted to be assembled and disassembled inside the skin and to be folded with adjacent parts of each unit adapted to be bundled together one on another into a relatively small sized pack and the skin adapted to be wrapped around it, said frame, when thus collapsed and packed leaving space for storage inside the skin.

2. A collapsible boat as defined in claim 1 in which each side frame unit comprises hinged topside elements adapted to engage and stretch the skin in the area of the topsides, but releasable therefrom for collapse and packing, and the topside frame sections being adapted to be folded over one another.

3. A collapsible boat as defined in claim 2 in which a jointed floor of relatively rigid boards extends between said side frame units; at least one tube is secured transversely on a central board of the jointed floor, the topside frames are hinged on a vertical axis for folding into a relatively small package, and brace arms are removably secured at their upper ends to the topside frames and are adapted to make releasable telescopic connection at their lower ends with said tubes whereby to brace the topside frames in upstanding relation to said floor.

4. A collapsible boat as defined in claim 3 in which bottom portions of the skin are backed by said floor boards and side wall portions thereof by relatively flexible reinforcing boards whereby the resistance of the hull to distortions, puncture and tear is enhanced.

5. A collapsible boat as defined in claim 1 in which a centerboard trunk is secured in watertight relation to said skin near the middle of the hull, and the skin is slotted for passage of a centerboard from the trunk into the water below the hull, the skin being secured to the centerboard trunk by means which strongly hold the skin thereto and also assure watertight connection.

6. A boat as defined in claim 5 wherein the skin is sealed to the centerboard trunk around said slot by adhesive means and by clamping means which hold the edges of said skin at the slot pressed against the hull.

7. A collapsible boat as defined in claim 5 in which the centerboard trunk is flanked by lateral braces which hold the trunk up in operative position.

8. A boat as defined in claim 7 in which a seat is removably mounted on top of the trunk and carried by said braces.

9. A boat as defined in claim 5 in which a stern seat is removably mounted on rails at the stern of the boat, and the centerboard trunk is adapted to receive and hold said seat as a centerboard.

10. A collapsible portable boat which comprises a unitary flexible skin of tough sheet material having high resistance to tensile stretching and high resistance to puncture and tear, said skin having the shape of the hull of the assembled boat, a frame adapted to be assembled and disassembled inside the skin and to be folded with adjacent parts thereof adapted to be bundled together one on another into a relatively small sized pack and the skin adapted to be wrapped around it, said frame, when thus collapsed and packed leaving space for storage inside the skin, said frame comprising hinged topside sections adapted to engage and stretch the skin in the area of the topsides, but releasable therefrom for collapse and packing, the topside frame sections being adapted to be folded over one another, a jointed floor including a central board, tubes secured transversely thereon, said topside frames being hinged on vertical axes for folding into a relatively small package, and brace arms removably secured at one end to said topside frames and being adapted at the opposite end to make telescopic connection with said tubes whereby to brace the topside frames in upstanding relation to said floor.

11. A collapsible portable boat which comprises a unitary flexible skin of tough sheet material having high resistance to tensile stretching and high resistance to puncture and tear, said skin having the shape of the hull of the assembled boat, a frame adapted to be assembled and disassembled inside the skin and to be folded with adjacent parts thereof adapted to be bundled together one on another into a relatively small sized pack and the skin adapted to be wrapped around it, said frame, when thus collapsed and packed leaving space for storage inside the skin, a centerboard trunk flanked by lateral braces which hold the trunk up in operative position, and a seat which is releasably secured on top of the trunk and carried by said braces.

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