

[54] HOUSEBOAT POWERED BY SMALLER BOAT

[76] Inventor: Clarence C. Hansen, 40 N. 130 St., Bonner Springs, Kans. 66012

[22] Filed: Apr. 25, 1973

[21] Appl. No.: 354,329

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 218,894, Jan. 19, 1972, abandoned.

[52] U.S. Cl. 114/235 R, 114/43.5

[51] Int. Cl. B63b 21/00, B63b 35/44

[58] Field of Search 114/235 R, 235 A, 43.5, 114/.5 R, .5 F, .5 BD, 45, 51, 61; 9/1 R, 30, 31; 115/6

[56] References Cited

UNITED STATES PATENTS

2,359,549	10/1944	Epstein	114/235 A
2,744,483	5/1956	Rhindress	114/45

3,347,201	10/1967	Szabo	114/235 R
3,596,623	8/1971	Frankel	114/43.5
3,659,546	5/1972	Miklos	114/235 R

FOREIGN PATENTS OR APPLICATIONS

11,188	9/1924	Netherlands	114/43.5
582,249	9/1959	Canada	114/43.5

Primary Examiner—George E. A. Halvosa

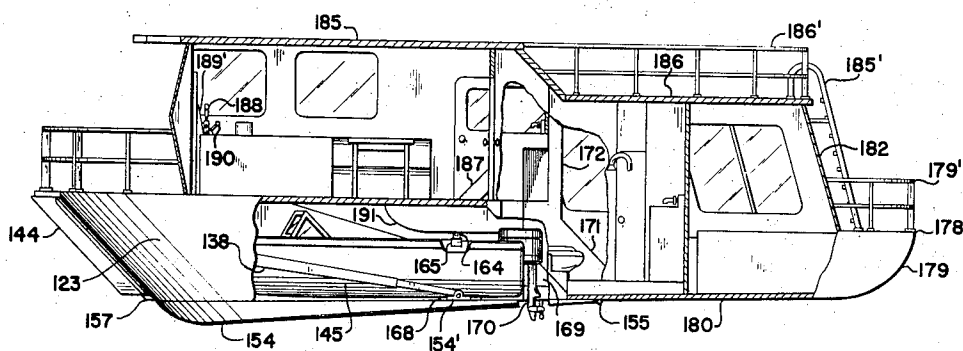
Assistant Examiner—Edward R. Kazenske

Attorney, Agent, or Firm—Fishburn, Gold & Litman

[57] ABSTRACT

A houseboat structure includes a forward opening well into which a relatively small power boat is received and retained to provide motive power. The forward location of the small boat permits, among other advantages, rear beaching of the larger boat and greater overall versatility. Alternate forward tow positions of the small boat are permitted through the use of a slidable retaining frame in the boat receiving well.

22 Claims, 23 Drawing Figures



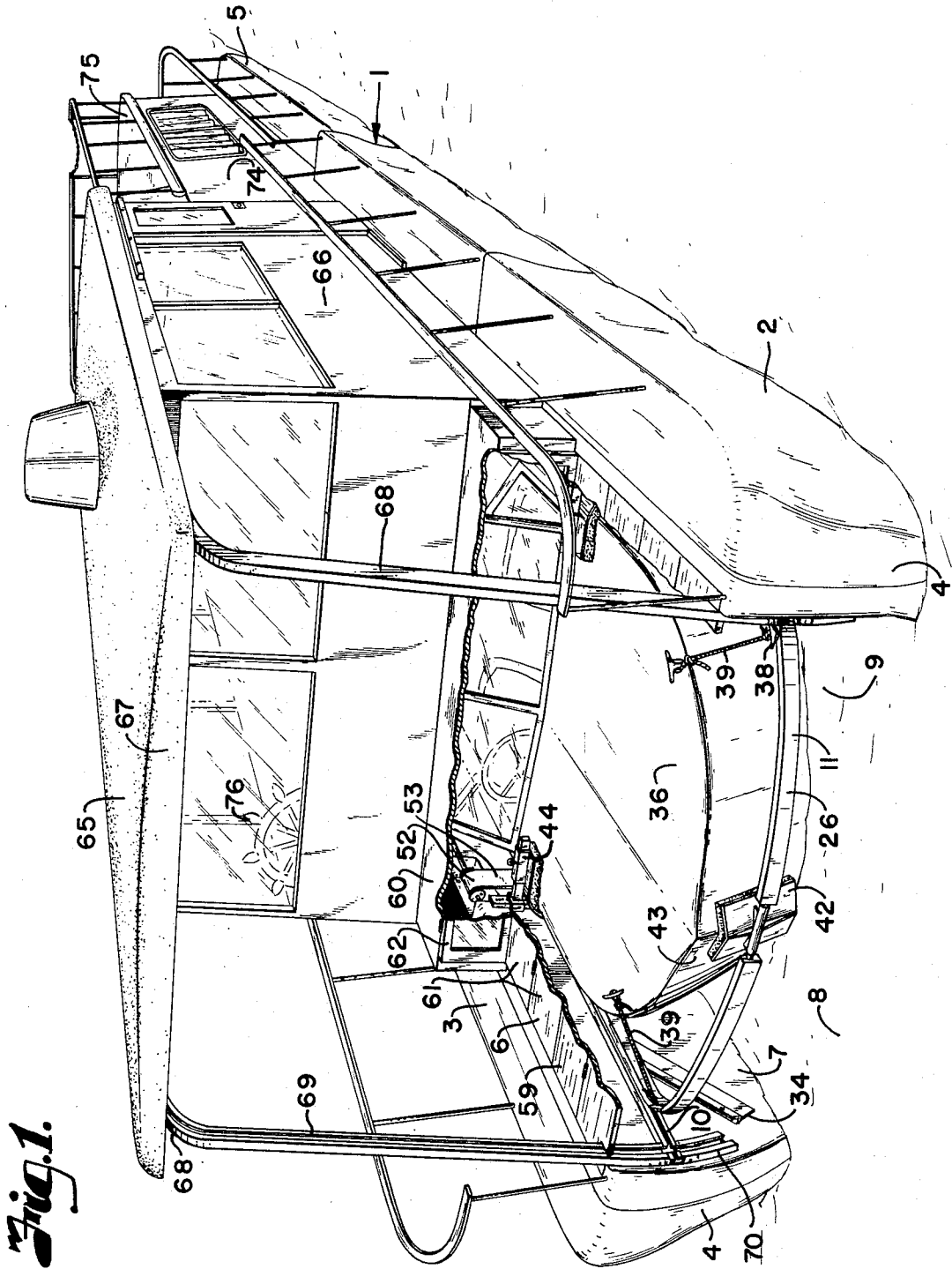


Fig. 5.

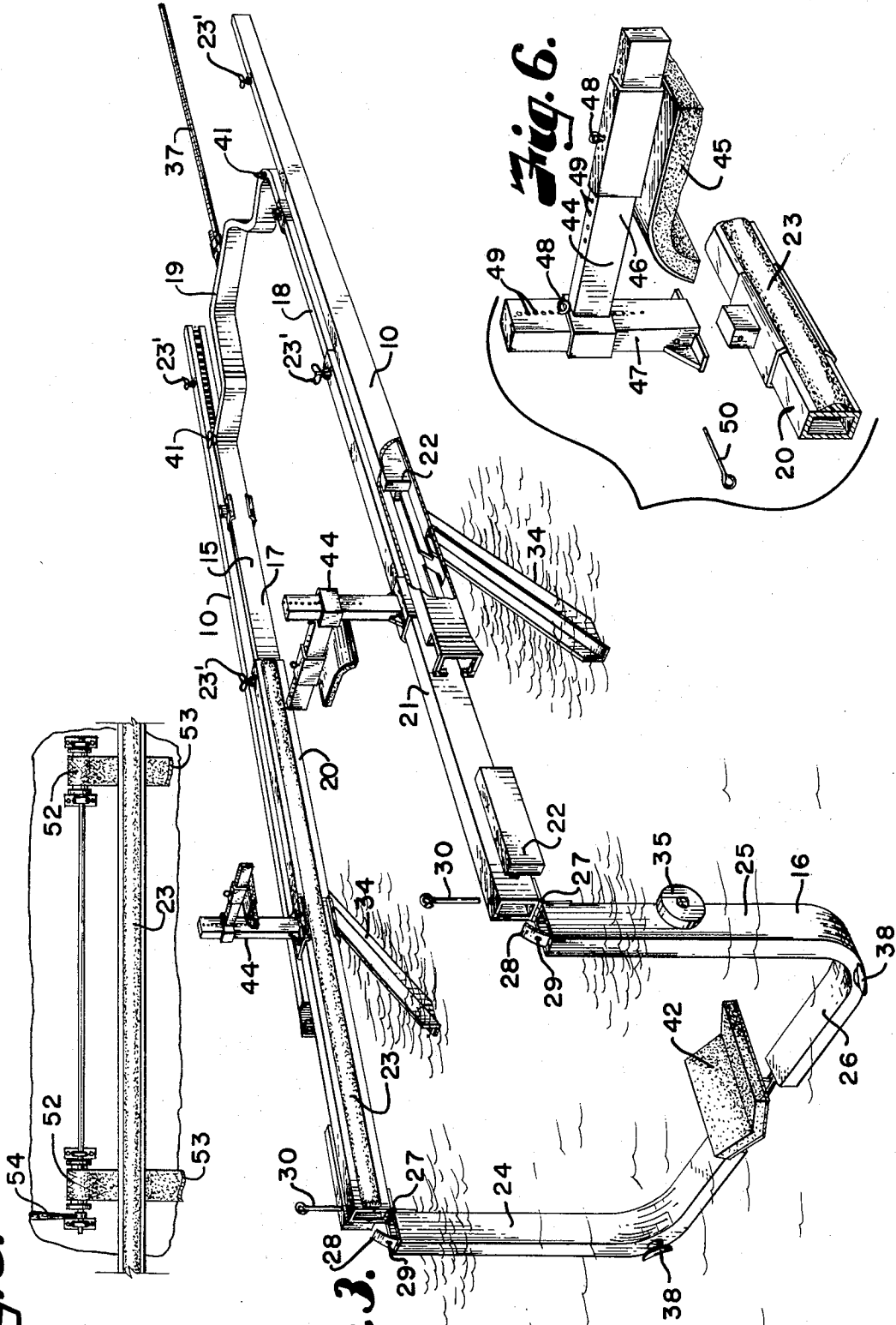


Fig. 3.

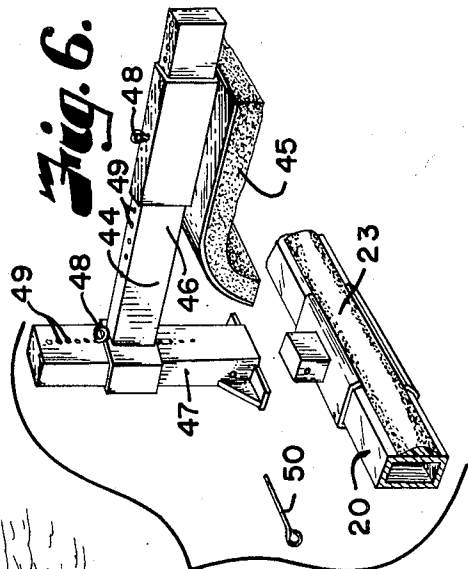


Fig. 4

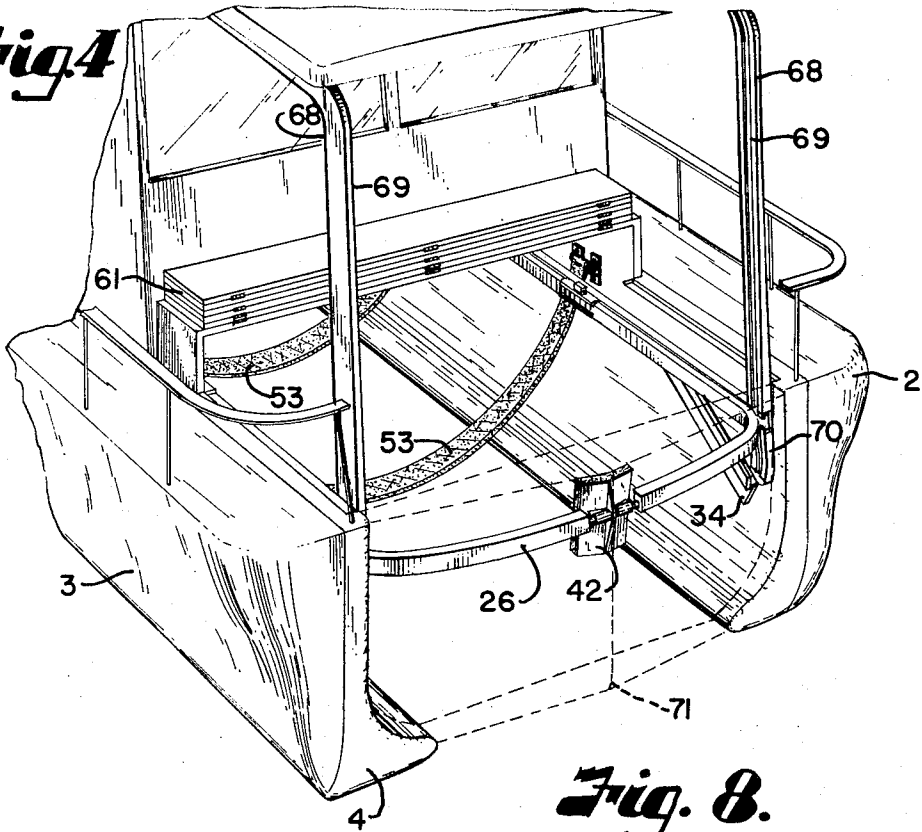


Fig. 8.

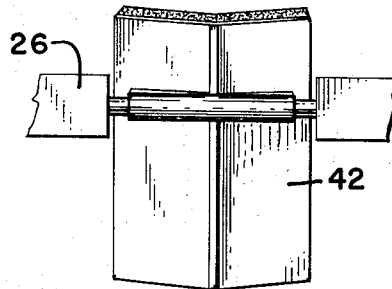


Fig. 7.

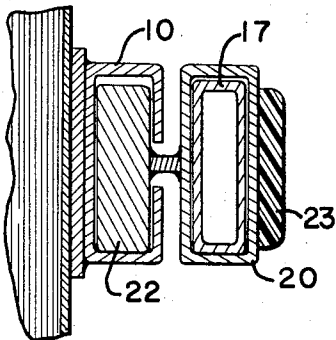
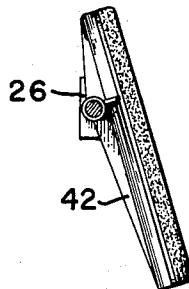


Fig. 9.



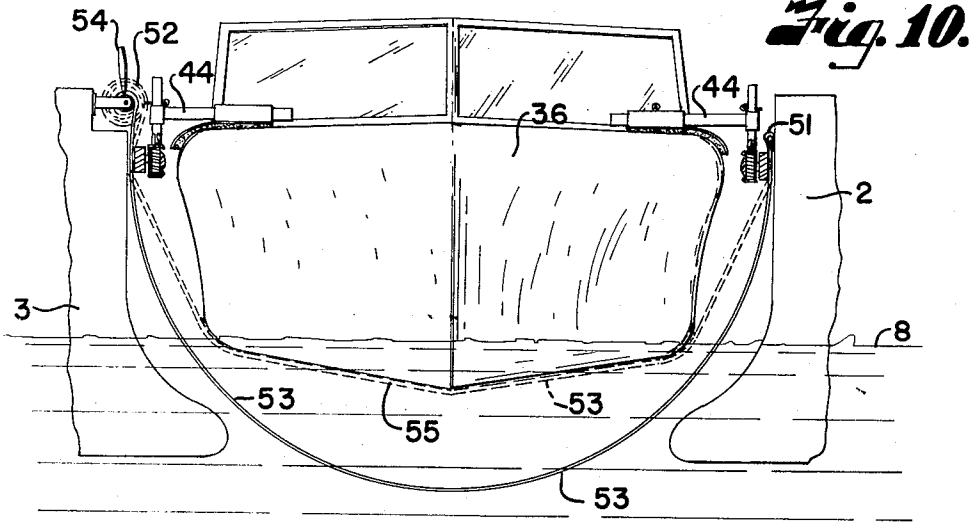


Fig. 12.

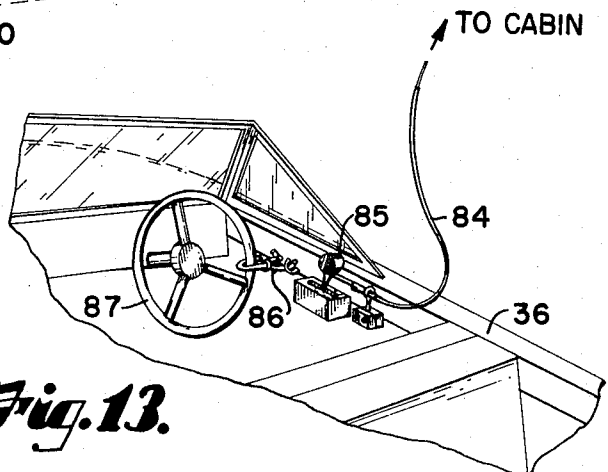
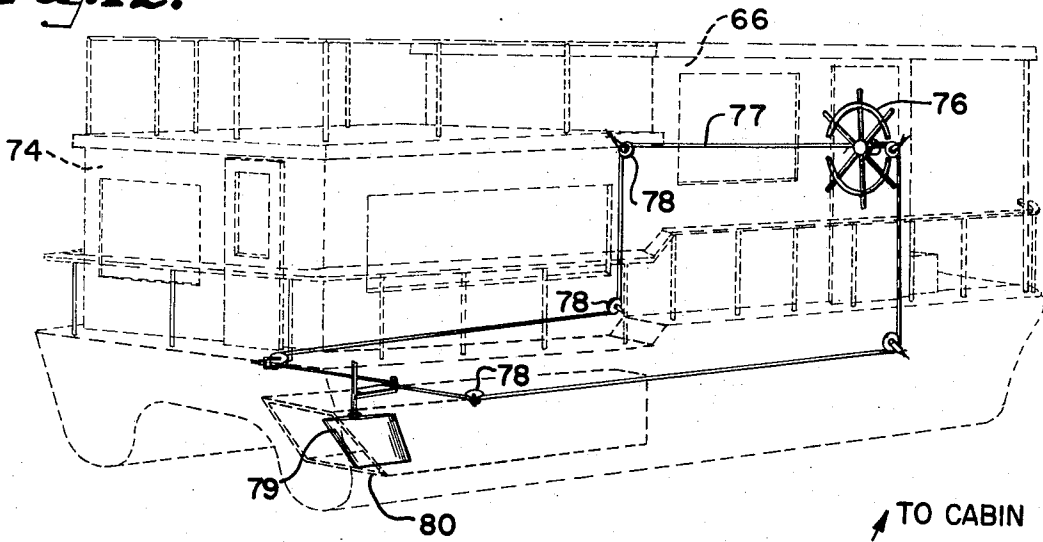


Fig. 13.

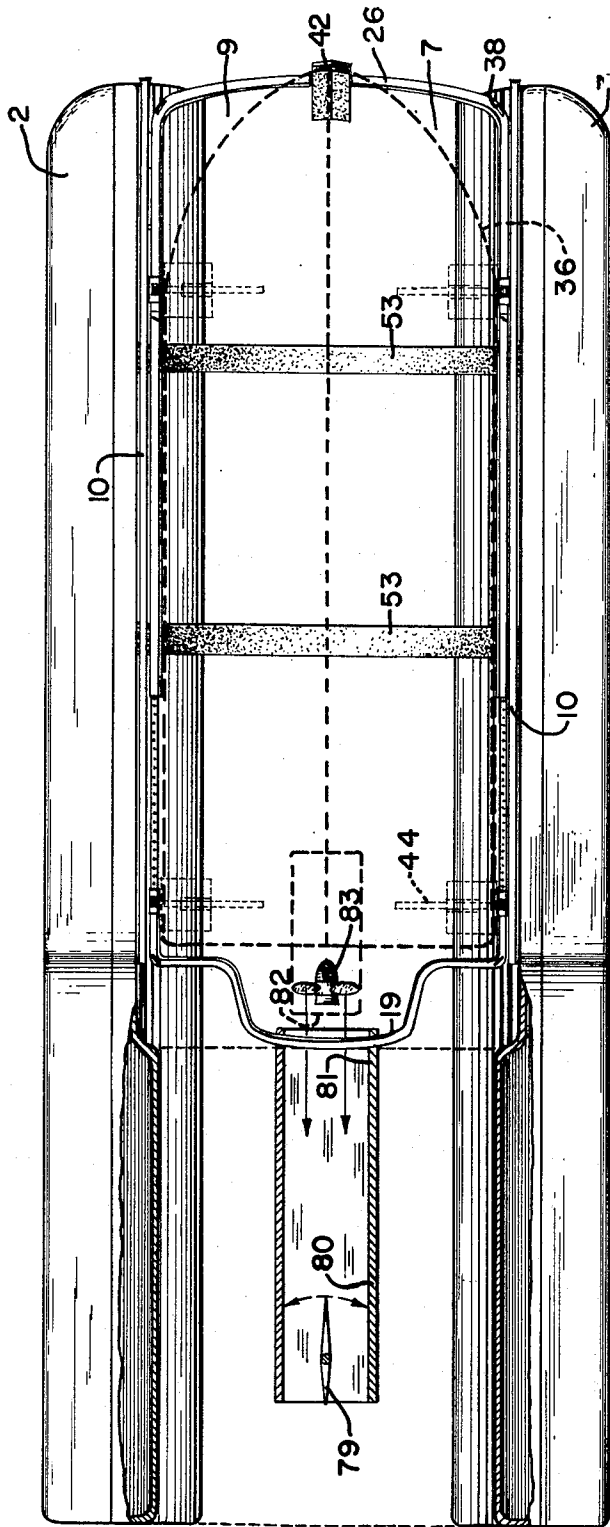


Fig. 11.

Fig. 14.

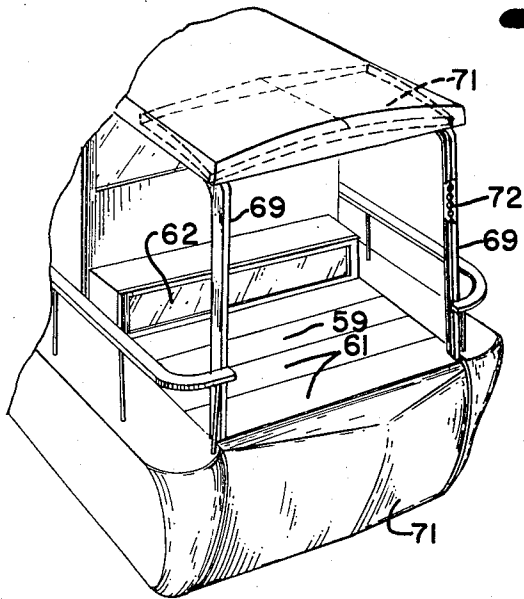


Fig. 15.

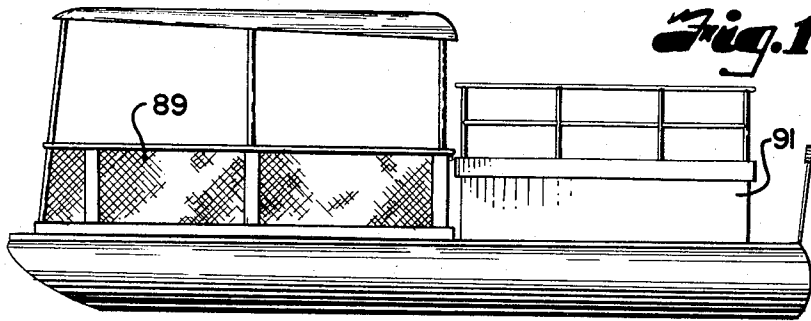
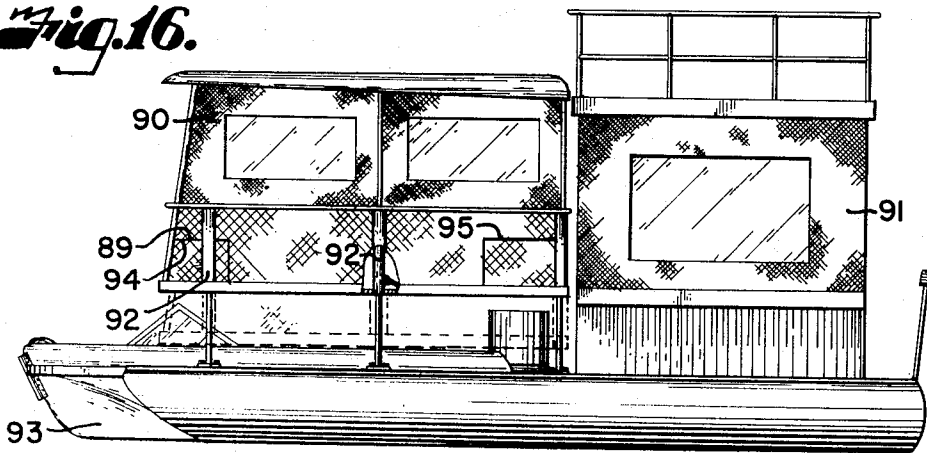


Fig. 16.



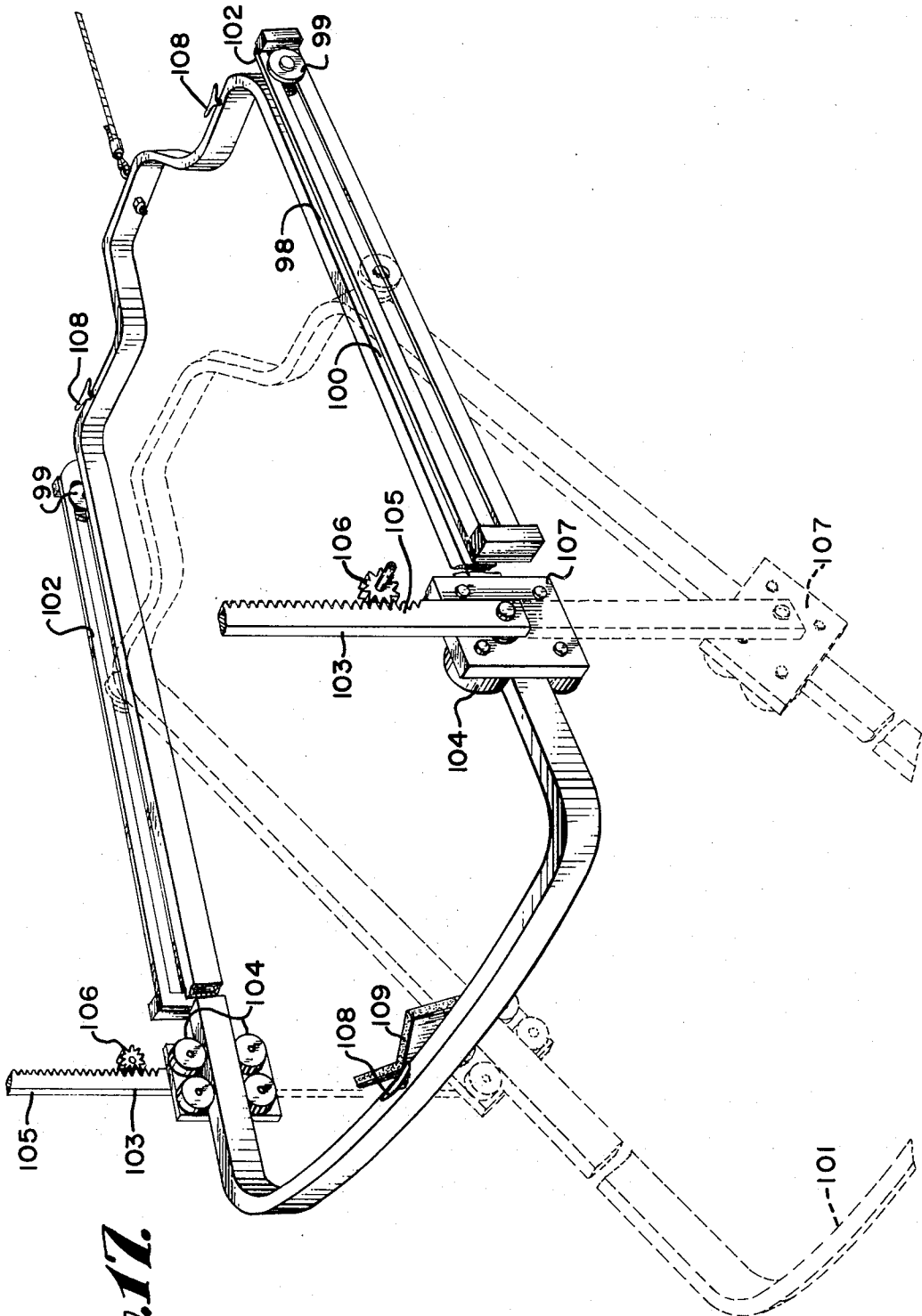


Fig. 11.

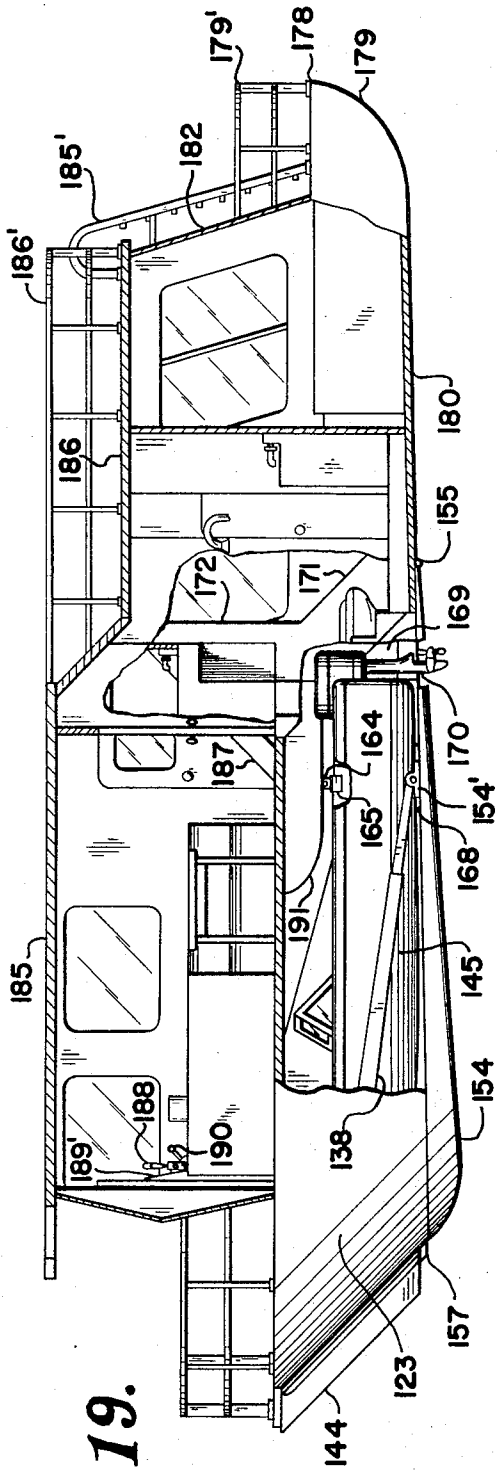


Fig. 19.

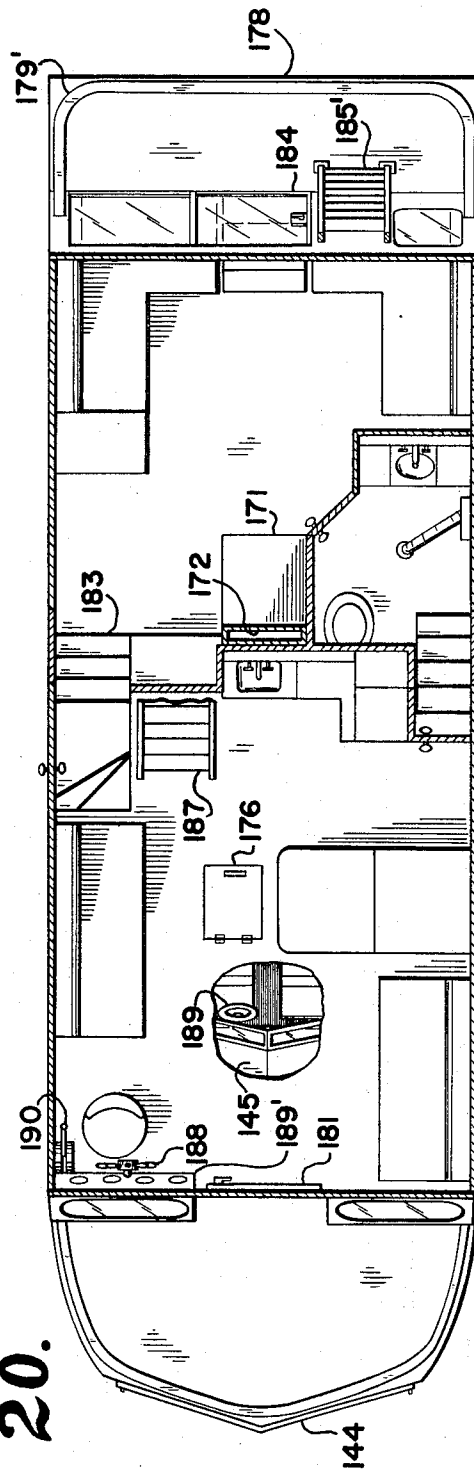


Fig. 20.

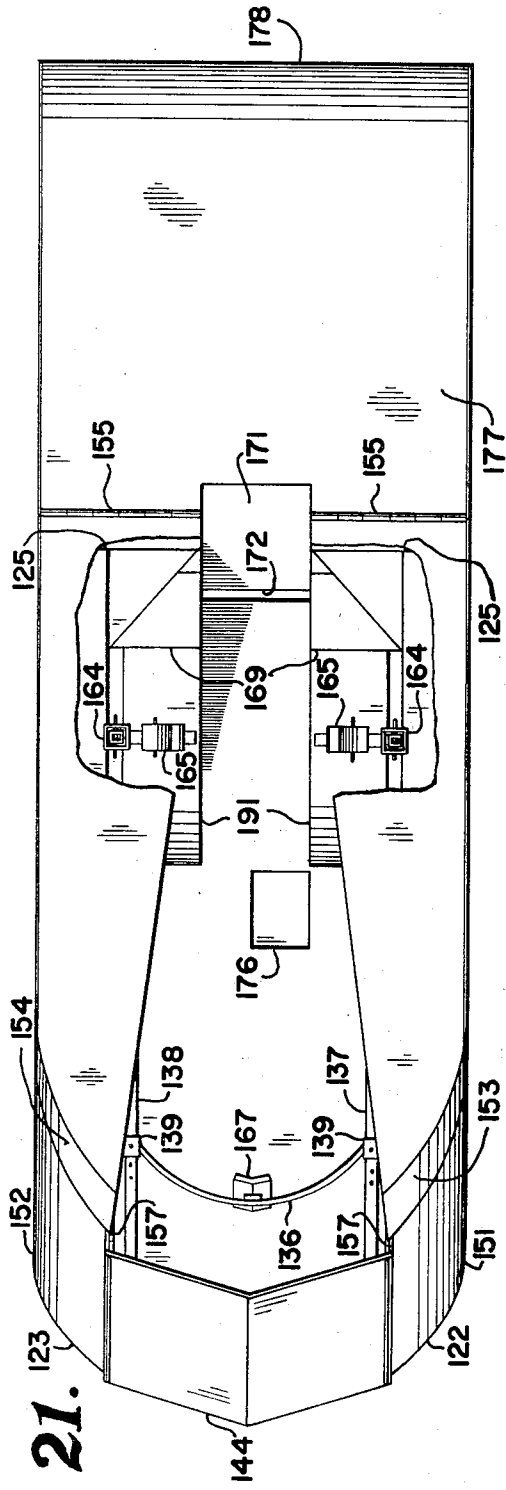


Fig. 21.

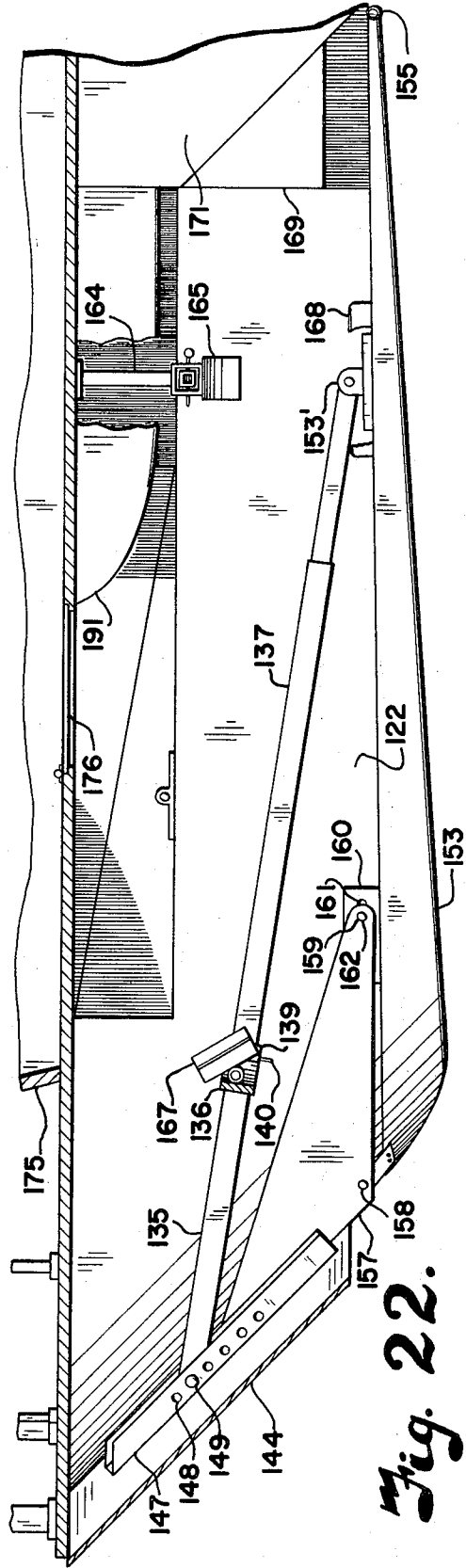


Fig. 22.

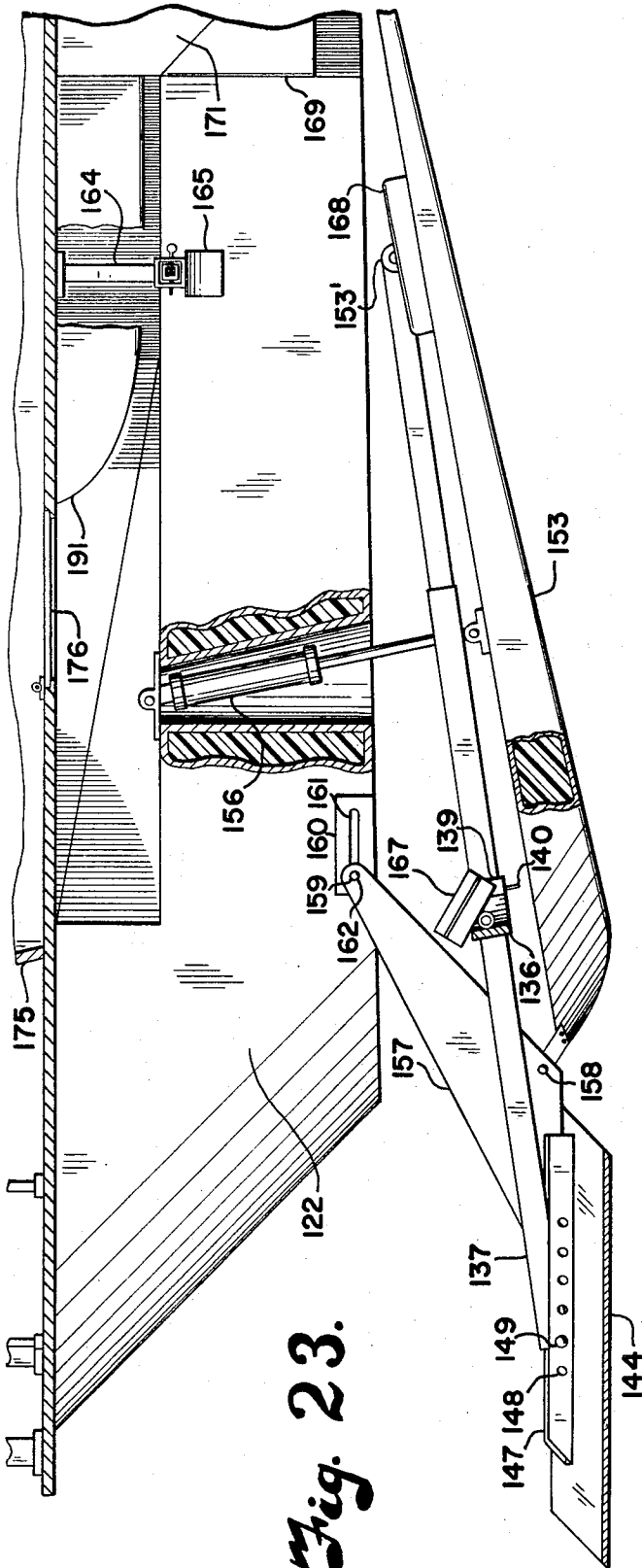


Fig. 23.

HOUSEBOAT POWERED BY SMALLER BOAT

This is a continuation-in-part of application Ser. No. 218,894 filed Jan. 19, 1972, now abandoned.

This invention relates to recreational boats and, more particularly, relatively inexpensive houseboat type structures.

A form of recreation for the wealthy has long included living on the water in more or less elaborate vessels or yachts used in addition to smaller power boats for sports and high mobility. Increasingly popular in recent years for those less able to afford elaborate vessels has been the so-called houseboat, which may range from a very modest floating cabin-type structure to a complex multi-room arrangement. In either case, a major cost item for the larger structure has centered around providing a power plant for motive ability. By the practice of this invention, the relative cost of a houseboat is reduced, without losing versatility, by providing a structure for temporarily and easily receiving thereinto a smaller power boat in a forward towing relation, whereby the power plant of the smaller boat is utilized only as needed, to provide total motive power.

The principal objects of the present invention are: to provide a boat arrangement adapted to receive a smaller powered boat thereinto at the forward end to obtain maximum overall mobility, including rear beaching; to provide such an arrangement wherein the smaller boat may be easily, safely and securely retained with respect to the houseboat and the combination protected against rough water; to provide such a combination wherein the smaller boat may be located in a forwardly extending position for short distance two operations or contained substantially within and beneath the houseboat for longer distance trips; to provide such an arrangement wherein power plant and steering control is accomplished from the houseboat; to provide such a combination wherein the smaller boat is easily released for independent use; to provide such an arrangement that is adapted to have bilevel living quarters; to provide such an arrangement that is sturdy in construction, easy to use and operate and well adapted for its intended use; and to provide such an arrangement which is suitable for utilization by relatively simple or elaborate structures, is substantially less expensive than houseboat arrangements which include a self-contained power plant and comprises a substantial advance in the art.

Other objects and advantages of this invention will become apparent from the following description taken in connection with the accompanying drawings wherein are set forth by way of illustration and example certain embodiments of this invention.

FIG. 1 is a perspective view of a houseboat arrangement embodying this invention, with portions broken away to show a small power boat retained in a frame within a receiving well.

FIG. 2 is a perspective view of the forward end of the arrangement of FIG. 1 but showing the frame extending forwardly of the receiving well.

FIG. 3 is a perspective view showing details of the boat frame of FIGS. 1 and 2.

FIG. 4 is a fragmentary perspective view of the houseboat forward end on a reduced scale, particularly showing the relationship between the boat frame and boat anchoring straps in the well.

FIG. 5 is a fragmentary detail in side elevation showing reels for the anchoring straps of FIG. 4.

FIG. 6 is a fragmentary perspective view on an enlarged scale showing positioning stop members used in conjunction with the small boat frame.

FIG. 7 is a fragmentary perspective view through the frame of FIG. 3 on enlarged scale, showing a sliding guide arrangement.

FIG. 8 is a fragmentary front elevation on an enlarged scale showing a front towing pad for the frame.

FIG. 9 is a fragmentary side elevation showing the towing pad of FIG. 8.

FIG. 10 is a fragmentary front elevational view particularly showing the positioning stop members and anchoring straps in use.

FIG. 11 is cross-sectional plan view showing the lower level of the houseboat structure and particularly the cooperative relation between the small boat propeller and the houseboat rudder.

FIG. 12 is a generally schematic perspective view showing the houseboat rudder control, the surrounding structure being illustrated by phantom lines.

FIG. 13 is a fragmentary perspective view showing a remotely operated throttle control on the small power boat.

FIG. 14 is a fragmentary perspective view on a reduced scale illustrating a bow cover located in well covering position.

FIG. 15 is a side elevational view of a modified form of houseboat arrangement wherein a portion of the forward deck is adapted to lift for receiving the small power boat into the well therebeneath.

FIG. 16 is a view similar to FIG. 15 but showing the forward deck portion elevated and the smaller boat received in the well.

FIG. 17 is a perspective view of a modified form small boat retaining frame.

FIG. 18 is a perspective view of a modified form of houseboat arrangement embodying this invention, with portions broken away to show a small power boat retained in a frame within a receiving well.

FIG. 19 is a side elevation view of the modified form shown in FIG. 18 with a side wall removed and portions of a floatation member broken away to show interior and structural details.

FIG. 20 is a plan view of the modified form shown in FIG. 18 with the roof removed to show interior details.

FIG. 21 is a bottom view of the modified form shown in FIG. 18 with portions broken away to show structural details.

FIG. 22 is an enlarged fragmentary view of the modified form shown in FIG. 18 showing details of the small boat retaining means with the bow forming member in a closed position.

FIG. 23 is an enlarged fragmentary view of the modified form shown in FIG. 18 showing details of the small boat retaining means with the bow forming member in a down position.

Referring to the drawings in more detail:

The reference numeral 1 generally indicates one form of houseboat structure embodying this invention. The houseboat 1, in this example, comprises a pair of elongated, laterally spaced apart pontoons or float sections 2 and 3 adapted, when in normal use, to project substantially above the water and respectively having a

forward end 4 and an aft end 5. A forward deck section 6 extends between and at the upper portion of the float sections 2 and 3, the float sections supporting the deck section 6 substantially above the water, whereby a horizontally extending well 7 is formed. The well 7 is defined by the space contained between the float sections 2 and 3, beneath the deck section 6 and above water level 8. The float section forward ends 4 define a forward access opening 9 therebetween which communicates into the well 7.

A pair of generally horizontally extending slide retainers 10 are respectively suitably mounted on the float sections 2 and 3 within the well 7 above normal water level 8. A boat anchoring frame 11 is supported by the slide retainers 10 for selectively sliding from a withdrawn horizontal position generally contained between the float sections (FIG. 1) to an extended position projecting forwardly past the well access opening 9 (FIG. 2). The anchoring frame 11, in this example (FIG. 3), comprises a rear section 15, and a forward section 16. The rear section 15 has parallel legs 17 and 18 suitably engaged by the respective slide retainers 10 and a rear cross-bar 19 extending between the float sections 2 and 3. Intermediate legs 20 and 21 of the rear section 15 are telescopically received over the rear legs 17 and 18 permitting a substantial adjustment of the overall length of the rear section 15. Slide blocks 22 (FIGS. 3 and 7) provide the physical sliding connection between the rear section 15 and the slide retainers 10. Suitable bumpers 23 provide a cushion between the rear section 15 and the boat to be secured therein and suitable locking devices 23' prevent unwanted relative sliding between the legs 17-18, 20-21, and slide retainers 10.

The frame forward section 16 includes parallel legs 24 and 25 normally respectively aligned with and abutting the frame rear section legs 20 and 21 and a forward cross bar 26 extending therebetween. Vertical hinges 27 respectively connect the frame rear section legs 20 and 21 to the forward section legs 24 and 25 permitting the forward cross bar 26, and legs 24 and 25, to pivot downwardly to a depending position with the cross bar 26 substantially beneath water level 8 (FIG. 3) when the frame 11 is in an extended position. Tabs 28 project rearwardly from the forward section 16 and have bores 29 therethrough adapted to receive a pin 30 which is received also through the rear section legs 20 and 21 to selectively lock the forward section 16 in a horizontal position extending forwardly from the rear section legs 20 and 21.

A pair of ramp members 34 are positioned near the float section forward ends 4 and incline downwardly and forwardly from beneath the slide retainers 10. Rollers 35 are mounted on the forward section legs 24 and 25 in positions aligned with the ramp members 34 when the forward cross bar 26 is pivoted downwardly (FIG. 3). As the rear section 15, which includes the rear section legs 20 and 21, is slid rearwardly on the slide retainers 10, as by a power boat 36 sacking therein, or a suitable draw cable 37, the rollers 35 engage the respective ramp members 34 causing the forward section 16 to pivot upwardly to a horizontal position. Locking may then be achieved by dropping the pins 30 through the rear section legs 20 and 21 and tabs 28.

Tie-down bars 38 are located on the frame forward sections 16 in suitable positions to temporarily secure the front portion of the power boat 36 within the boat

anchoring frame 11, for example, as shown in FIG. 2 where ropes 39 are engaged between the tie-down bars 38 and similar bars 40 on the boat. Rear tie-down bars 41 are secured to the rear section cross bar 19 for the same purpose. A bow pad 42 is preferably secured centrally to the forward cross bar 26 in a position for engaging the bow 43 of the power boat, 36. Positioning stop members or hold-down devices 44 are secured, in this example, to respective boat frame legs 20 and 21. The devices 44 carry curved pads 45 (FIG. 6) adjustable both vertically and horizontally on support bars 46 and 47 for engaging the boat 36 and preventing upward and lateral movement relative to the houseboat when the smaller boat is secured therewithin. The devices 44 are easily adjustable, in this example, by means of lock pins 48 which are receivable into selected, spaced openings 49 in the support bars 46 and 47. The hold-down devices may be easily released by pulling a lock pin 50 (FIG. 6) which, in operative position, retains the support bar 47 on the rear section legs 20 and 21.

A plurality of band anchors 51 are secured, in this example, to the float section 2 within the well 7. Band reels 52 are secured to the opposite float section in positions opposed to the band anchors 51. Bands 53 have one end respectively secured to the band anchors, are looped below water level 8 beneath the well 7, and are subsequently attached at the other ends to the band reels 52. A suitable ratchet device 54 may be utilized to actuate the reels 52 thereby drawing the bands 53 upwardly into engagement with the boat hull bottom 55, and resisting relative downward motion of the power boat with respect to the houseboat structure (FIG. 10). The hold-down devices 44 and bands 53 cooperate to securely retain the boat 36 in the well for operation.

In the example of FIGS. 1 and 2, the forward deck section 6 has a forward portion 59 extending from the access opening 9 rearwardly to an intermediate position 60 on the houseboat 1. The forward portion 59 comprises a plurality of mutually hinged deckboards 61 adapted to accordion-fold into mutual engagement as shown in FIG. 2, thereby selectively exposing the well 7 at the forward end 4 for access convenience. The rearmost deckboard 61 is hinged to a normally upwardly directed windshield panel 62 which may fold upwardly and rearwardly with the accordion folded deckboards 61 to provide an auxiliary access opening 63. The access opening 63 is utilized to provide vertical clearance for larger outboard motors 64 on the power boat 36. The windshield panel 62, when in normal position as shown in FIG. 1, permits houseboat manipulation from a seated position within the power boat 36, if desired.

The roof 65 of the houseboat extends forwardly from a central cabin portion 66 over the deck forward portion 59. The forward end 67 of the roof 65 is supported by brace members 68, which, in this example, include inwardly open guide tracks 69 extending downwardly to deck level where they communicate with track extensions 70 formed on the inwardly facing surfaces of the respective float sections 2 and 3. With particular reference to FIG. 14, a bow cover 71 is normally stored beneath the roof 65 and engages at lateral edges thereof in the respective guide tracks 69. When desired, for example, when the water is rough, the bow cover may be lowered on the guide tracks 69 by means of suitable chains 72, into active position between the

float sections 2 and 3, thereby closing the access opening 9.

A rear cabin portion 74 is located rearwardly of the central cabin portion 66 and, preferably comprises additional living quarters which may include sleeping facilities, kitchen facilities, etc. An observation deck 75 is desirably formed from the top of the rear cabin portion 74.

FIG. 12 illustrates a steering control arrangement for the craft which includes a hand wheel 76 engaging a control line 77 which operates over suitable pulleys 78 and is secured to a rudder 79. The rudder 79 is, in this example, positioned at the rear outlet of a hollow conduit 80 which serves to protect the rudder upon rear beaching of the craft. The forward end 81 of the conduit 80 opens adjacent location 82 where the drive propeller 83 of the power boat 36 is positioned beneath the well 7.

Referring to FIG. 13, a control cable 84 terminates at one end thereof (not shown) within the central cabin portion 66 adjacent the hand wheel 76 and at the other end thereof temporarily engages the throttle 85 on the power boat 36. In this manner, the motor 64 may be controlled from within the cabin portion 66 during movement of the houseboat structure on the water. A suitable steering lock 86 preferably retains the power boat steering wheel 87 in fixed position during the use of the smaller craft for motive power within the houseboat.

In operation, when it is desired to move the houseboat 1 from one location to another, the deck boards 61 and windshield panel 62 are preferably folded to the position illustrated in FIG. 2 and the boat anchoring frame 11 is slid forwardly to a position extending from the forward end 4. The pins 30 are pulled and the forward section 16 is permitted to drop to the position shown in FIG. 3. The hold-down devices 44 may be removed and the bands 53 are permitted to loop downwardly into the water substantially below the small boat hull bottom 55.

The boat 36 is backed into the frame 11 and preferably secured at the rear end by means of the rear tie-down bars 41. The boat 36 may then be backed into the well 7 under its own power or through a suitable winch (not shown) connected to the draw cable 37, the locking devices 23' being previously set for the size boat used. Upon rearward movement of the power boat 36, the anchoring frame 11 slides rearwardly into the well 7 whereupon the rollers 35 contact the respective ramp members 34 causing the frame forward section 16 to pivot upwardly to a position in planar relation with the remainder of the boat anchoring frame. It is necessary to replace the pins 30 through the projecting tabs 28 only if the frame 11 is permitted to extend forwardly, as shown in FIG. 2, for short runs as noted below.

The smaller craft may then be temporarily secured within the well 7 by means of suitable ropes 39, the major retaining members being the hold-down devices 44 secured in position against the upper portion of the power boat 36 and the anchor bands 53 tightened against the hull bottom 55. If desired, the deck boards 61 and windshield panel 62 may be returned into normal position and the houseboat operated under the motive power of the boat 36 either from the small boat or the central cabin portion 66 as desired.

For short runs, or when unusual maneuverability is desired, it is sometimes preferable to operate the small

craft with the boat anchoring frame 11 extended as shown in FIG. 2. This position is further sometimes desirable when backing the houseboat onto a beach, in order to protect the propeller 83 from possible contact with the ground.

Referring to FIGS. 15 and 16, a modified form of this invention is illustrated wherein the central cabin portion 89 consists of a simple deck structure with a railing and facilities for temporarily enclosing the space with suitable window and wall structures 90. The rear cabin portion 91 may take the form of a collapsible camper arrangement, FIG. 16 showing the rear cabin portion in expanded form.

The central cabin portion 89, in the embodiment of FIGS. 15 and 16 includes, for example, a plurality of hydraulic rams 92 which, when actuated, lift the central cabin portion 89 from the position shown in FIG. 15 to the position shown in FIG. 16, thus providing ample clearance for backing the small power boat 93 therebeneath. After the boat 93 is positioned therebeneath, the central cabin portion 89 is lowered to provide a more stable houseboat configuration. Suitable clearance structures 94 and 95 are provided in the deck of the central cabin portion 89 to receive the windshield and outboard motor through deck level. The clearance structures 94 and 95 may be used as tables or the like within the central cabin portion 89.

FIG. 17 shows a modified form of boat anchoring frame designated 98 which does not include a downwardly pivoting forward section, as described in connection with the anchoring frame 11. Rather, the frame 98 is generally rigid along its overall length and pivots downwardly by means of a rear trunion arrangement 99 from the normal position 100 to a boat receiving position 101. The frame 98 slides forwardly and rearwardly in suitable guides 102 and pivoting is preferably accomplished by sliding bracket structures 103 positioned on opposite sides thereof.

The bracket structures 103 include guide wheels or the like 104 for retaining the frame but permitting movement thereof forwardly and rearwardly there-through. An upwardly directed rack bar 105 moves vertically in response to the rotation of a suitable pinion 106 which may be powered by any suitable means, including a hand crank (not shown). The guide wheels 104 are mounted on a plate 107 which is pivotally connected to the lower end of the rack bar 105 so that the plate may tilt when the frame 98 is dropped for receiving a boat therein. Suitable tie-down bars 108 are rigidly connected to the frame 98 at selected forward and rear positions in order to anchor the boat within the frame. A bow pad 109 is provided for bow engagement with the small power boat.

FIGS. 18 through 23 inclusive illustrate a modified form of this invention wherein the reference numeral 121 generally indicates a houseboat. The houseboat 121 comprises a pair of elongate laterally spaced apart pontoons or floatation members 122 and 123 which, when in normal use, project substantially above the surface of the water with each having a forward end 124 and an aft end 125. A deck section 126 extends between the float members 122 and 123 with the float members supporting the deck section 126 substantially above the water, whereby a horizontally extending well 127 is formed. The well 127 is defined by the float sections 122 and 123, the deck section 126 and the surface of the water 8. The forward ends 124 of the float sec-

tions define a forward access opening 129 therebetween which communicates into the well 127.

A boat retaining or anchoring frame structure 131 is suitably mounted on the float members 122 and 123 within the well 127 with portions thereof preferably above normal water level. The frame 131 in this example is comprised of side sections 135 and a forward section or cross brace 136. The side sections 135 include generally parallel leg members 137 and 138 that are preferably suitably pivotally mounted at the rear on the respective float members 122 and 123 and preferably are telescoping members extending toward the bow of the houseboat 121. The cross brace 136 is mounted on the leg members 137 and 138, extending therebetween and preferably movable forward and aft therealong and has means associated therewith for securing same in a selected position along the length of the legs 137 and 138. As illustrated, the cross brace 136 has slide members 139 secured to each end thereof and which are slidably mounted on the leg members 137 and 138. The means holding the cross brace 136 in a selected position is illustrated as a retaining pin 140 that extends through the respective slides 139 and one of a plurality of apertures 141 that extend through the leg members 137 and 138.

In the illustrated structure, the house boat 121 is provided with a bow forming member 144 that extends between the floatation members 122 and 123, substantially closing the access opening 129. The bow forming member 144 is mounted in such a manner as to be movable from a position closing the access opening 129, as illustrated in FIG. 22, to position providing clearance for the smaller boat 145 to enter the well 127, as best seen in FIG. 23. Preferably, the bow member 144 moves downwardly below water level providing clearance for the boat 145 to pass thereover. The leg members 137 and 138 have their forward ends suitably secured to the bow member 144 wherein movement of the bow member 144 effects movement of the leg member 137 and 138. As illustrated, the legs 137 and 138 are each pivotally mounted on a channel type member 147 that is secured to the interior surface of the bow member 144. Each of the channel members 147 has a plurality of apertures 148 through portions thereof for receiving a suitable pin 149 therethrough to connect the respective leg members 137 and 138 thereto in a pivoting relation. The apertures 148 permit vertical adjustment of the position of the cross brace 136 for a purpose later described.

In the illustrated structure, the floatation members 122 and 123 are respectively comprised of an upper portion 151 and 152 and a lower portion 153 and 154 with each preferably being comprised of an outer shell portion of a durable material such as metal or fiberglass and being filled with a closed cell foam material. The lower portions 153 and 154 preferably are movable relative to the respective upper portions 151 and 152 and 25 illustrated, are hingedly connected at the rear thereof by suitable hinges 155 whereby the lower portions 153 and 154 will pivot downwardly from the rear thereof. In the illustrated structure, the legs 137 and 138 are pivotally mounted on bearing members 153' and 154' respectively that are secured to the upper surfaces of the lower portions 153 and 154 respectively. Means are provided to effect the movement of the lower portions 153 and 154 and in the form shown extendible cylinders such as hydraulic cylinders 156 are

operatively connected thereto to effect selective movement thereof. Actuating or brace members 157 are suitably connected between the upper portions 151 and 152, the respective lower portions 153 and 154 and the bow forming member 144 whereby movement of the lower portions relative to the upper portions effects movement of the bow member 144 and the frame structure 131. As illustrated, the actuating members 157 are generally triangular in shape, each having a portion thereof secured to the interior surface of the bow forming member 144 and being pivotally connected to the respective upper portions as at 159 and the respective lower portions as at 158. Each actuating member 157 is pivotally connected to the respective lower portion as at 158 and pivotally connected to the respective upper portion as at 159. In the illustrated structure, the pivotal connection as at 159 includes a slide or guide member 160 secured to the respective upper portion and having a guide track 161 therein. A bearing member 162 is engaged with or retained in the track 161 and secured to the actuating member 157 whereby during downward movement of the respective lower portion, the bearing member 162 will move forward in the track 161 with the bow forming member 144 moving downwardly to a more horizontal position. The bow forming member 144 moves downwardly sufficiently below water level to permit movement of the boat 145 thereover and can also serve as a platform when in the down position for a swimmer or the like. The leg members 137 and 138 move in response to movement of the lower portions 153 and 154 and by being mounted thereon, extra clearance is provided for the small boat 145 because the legs 137 and 138 move downwardly with the lower portions 153 and 154.

As best seen in FIG. 21, the lower portions 153 and 154 have edge portions that converge toward one another toward the rear thereof so as to partially underlie portions of the boat 145 when same is positioned within the well 127. A retaining bracket means 164 is suitably secured to the underside of the deck portion 126 on each side of the well 127 and are operable to help retain the boat 145 within the well 127. As illustrated, the retaining brackets 164 preferably are adjustable both horizontally and vertically to accommodate different sizes of boats 145. Preferably the brackets 164 are provided with padded engaging members 165 that will engage an upper surface portion of the aft end of the boat 145 preventing both lateral and upward movement within the well 127. The cross brace member 136 is provided with a bow engaging member or pad 167 that is operable to engage the bow of the smaller boat 145 to help retain same within the well 127. Preferably the bow pad 167 is pivotally secured to the cross brace 136 and is positioned midway between the floatation members 122 and 123. The smaller boat 145 is retained within the well 127 and has its movement limited by the bow pad 167, which prevents forward movement of the boat 145 within the well 127, and the retaining brackets 164. Upward movement of the lower portions 153 and 154 moves the bow pad 167 into engagement with the bow of the boat 145 and the pads 168 into engagement with the bottom surface of the boat 145 adjacent the stern thereof. Further upward movement of the lower portions 153 and 154 urges the boat 145 to move upwardly whereby upper surface portions of the boat 145 move into engagement with the retaining brackets 164. Abutment members 169 are provided in the well

127 for engagement with the stern of the smaller boat 145 preventing rear movement thereof within the well 137. A motor 170 of the boat 145 is positioned within a motor well 171 with the motor 170 preferably being positioned aft of the center of the houseboat 121. Ventilation for the motor 170 is provided by a vent 172 communicating between the well 171 and the exterior of the houseboat 121 and preferably opens upwardly and out of the roof of the houseboat 121.

The houseboat structure 121 is provided with means permitting ingress into and egress out of the small boat 145 when same is retained within the well 127. In the illustrated structure, the passenger compartment of the small boat 145 is positioned under the deck section 126 and also under a cabin portion 175. As illustrated, a hatch or trap door member 176 is provided in the deck section 126 to permit the ingress into and egress out of the small boat 145. Suitable ladder or step means (not shown) can also be provided adjacent the hatch 176 to facilitate the ingress and egress.

In the illustrated structure, the floatation members 122 and 123 extend rearwardly from the bow of the houseboat structure 121 terminating adjacent the motor well 171. A barge type hull 177 extends rearwardly from the rear portion of the floatation members 122 and 123 to the stern 178 of the houseboat 121. Preferably the hull portion 177 has a flat or substantially flat bottom surface forming member 180 extending substantially the width of the houseboat 121 terminating rearwardly in an upwardly sloping or curved stern portion 179. The flat bottom surface member 180 and the upwardly curved stern 179 permits rear beaching of the houseboat 121. The motor 170 is positioned sufficiently forward of the stern 178 to prevent same from grounding when the houseboat 121 is stern beached. It is to be noted that the height of the stern 178 is less than the height of the bow of the houseboat 121 and permits easy entrance into and exit out of the houseboat 121 to the shore on which it is beached. Stair means (not shown) can also be provided at the stern 178 to facilitate the entering and exiting. Guard rails 179' are mounted on the stern and help prevent falling overboard therefrom.

In the illustrated structure, the houseboat 121 is provided with two cabins or living quarters forming portions preferably on two levels whereby the cabin portion 175 has a floor formed by the deck section 126 and is positioned above the normal water level. A rear cabin portion 182 is positioned aft of the cabin portion 175 and has a floor thereof lower than the floor of the cabin 175 wherein the floor of the cabin 182 is positioned adjacent the normal water level and is formed by the interior surface of the bottom member 180. As best seen in FIGS. 19 and 20, the cabins 175 and 182 are provided with living facilities including sleeping quarters, lounging quarters restroom facilities and kitchen facilities and also storage areas. A stairwell 183 is provided to permit movement between the two cabin portions 175 and 182. Doors 181 and 184 are provided for the cabins 175 and 182 respectively permitting entry into and exit from the same. Preferably the doors 181 and 184 are of a sliding type with the door 181 providing access through the front wall of the cabin 175 and the door 182 providing access through the back wall of the cabin 182.

Roof members 185 and 186 are provided for the cabins 175 and 182 respectively with a stairwell 187 pro-

viding access to the roof 186 from the cabin 175. As illustrated, the roof member 186 can be used as an observation deck or lounging area and is provided with guard rails 186' to prevent falling overboard therefrom. A ladder 185' is mounted on the rear wall of the cabin 182 and extends to the roof 186 for providing access thereto from the exterior of the cabin 182 adjacent the stern 178.

Means are provided to operatively connect to the controls of the small boat 145 so that same can be controlled from within the cabin 175. A hand wheel 188 is mounted in the cabin 175 adjacent the forward wall thereof and is operable to control steering movement of the motor 170 during movement of the houseboat structure 121 on the water. Preferably the wheel 188 is connected to the power boat steering wheel 189 in such a manner that both can be used to steer the houseboat 121. The throttle control for the motor 170 is also connected to a remote throttle control member 190 for control of the operating speed of the motor 170 from within the cabin 175. A control panel 189' is provided adjacent the wheel 188 and preferably has start-stop controls for the motor 170 mounted thereon and also includes instruments mounted thereon that indicate such conditions as motor temperature, oil temperature and motor speed.

In operation, the bow member 144 is lowered by activation of the hydraulic cylinders 156, lowering the lower portions 153 and 154 and the frame structure 131 and providing clearance for the small boat 145 to pass thereover. The boat 145 is backed into the well 127 until the stern thereof abuts the members 169. The retaining bracket 164 can then be adjusted vertically and horizontally suitably for the particular size of the boat 145 so that on raising of the lower portions 153 and 154 the boat 145 will be grippingly retained between the pads 165 and 168. The position of the bow pad 167 is adjusted preferably before the boat 145 is backed into the well 127 wherein the vertical position is adjusted by securing the end of the leg members 137 and 138 within the proper aperture 148 of the channel members 147. Horizontal or forward and aft adjustment of the bow pad 167 is accomplished by sliding the cross brace 136 forward and aft along the leg members 137 and 138 to the desired position and securing same there at by placing the retaining pins 140 through the slide members 139 and in the proper and selected apertures 141. Upon raising of the lower portions 153 and 154 by activation of the hydraulic cylinders 156, the bow pad 167 moves upwardly into engagement with the bow of the small boat 145 whereby the small boat 145 is retained between bow pad 167 and the abutment pads 169, preventing forward and aft movement of the boat 145 within the well 127. The cylinders 156 remain pressurized on the upstroke to hold the lower portions 153 and 154, the frame 131 and the bow member 144 in the up or retaining position. The bow pad 167 prevents downward movement of the boat 145 within the well 127 and suitable means such as a spring loaded shock absorber (not shown) can be provided to prevent upward movement of the boat 145 within the well 127. A latch (not shown) can be provided to prevent accidental lowering of the bow member 144 when in use.

The operator, after backing the boat 145 into the well 127, then connects the remote control means to the throttle and the motor 170 so that same can be con-

trolled within the cabin 175. Fuel storage tanks 191 are provided to store fuel in addition to the fuel stored in the fuel tank of the small boat 145. The tanks 191 store fuel for long trips and if safety requirements permit they can be connected to the small boat fuel tank or the small boat fuel tanks can be filled from the tanks 191 outside of the well 121. After the connections are made, the operator can then exit from the small boat 145 into the cabin 175 through the hatch 176.

The houseboat 121 can be moved or propelled about a body of water to a desired location and can be beached or anchored, providing semi-permanent living quarters. The small boat 145 can then be released from the well 127 for independent use when short runs or pleasure use, such as towing skiers, is desired.

The ability to rear-beach the boat is of substantial advantage since it reduces the danger of water washing over the stern, provides a more pleasing viewing position for the occupants, a much easier and safer position for refloating the larger boat and a convenient position for launching and capturing the smaller boat. The float members 122 and 123 allow incoming waves to break around same and into the well 127 thereby dampening movement of the houseboat 121 when beached to make living on the houseboat more comfortable. The well 127 provides a garage for storage of the small boat 145 when not being used thereby eliminating the need to moor it alongside when not in use. One problem with present houseboat structures is that they are not adapted for towing skiers and that boats adapted to tow skiers are not adapted to be lived in. The houseboat structures described herein provide living quarters as well as permitting the use of the small boat to tow skiers.

It is to be understood that while certain forms of this invention have been illustrated and described, it is not to be limited thereto except insofar as such limitations are included in the following claims.

What I claim and desire to secure by letters Patent is:

1. In a boat structure having a forward end:
 - a. means forming a well above water level and extending horizontally beneath said boat structure, said means at least partially defining an access opening into said well at said forward end; and
 - b. means secured to said well forming means and selectively retaining a smaller power boat within said well for providing motive power to said structure, said latter means including an elongated frame rigid along the length thereof and having a rear portion pivoted to said well forming means; said frame having at least a portion thereof pivotable downwardly beneath water level for receiving the smaller boat thereover.
2. In a boat structure having a forward end:
 - a. means forming a well above water level and extending horizontally beneath said boat structure, said well forming means at least partially defining an access opening into said well at said forward end; and
 - b. retaining means associated with said well forming means and selectively retaining a smaller power boat within said well, said smaller power boat entering and exiting through said forward access opening and having propelling means for providing motive power to said structure, said retaining means including a rigid frame slidable horizontally

within said well and having portions selectively movable from a retaining position to a second position permitting entry and exit of said smaller power boat into and out of said well, said retaining means engaging the bow of said smaller power boat.

3. The structure as set forth in claim 2 including:
 - a. means forming an upwardly sloping surface portion at the stern end of the structure, said upwardly sloping surface portion being positioned aft of said smaller power boat propelling means whereby said structure is adapted for stern beaching.
4. The structure as set forth in claim 2 wherein:
 - a. said frame has at least a portion thereof pivotable downwardly beneath water level for receiving said smaller power boat thereover.
5. The structure as set forth in claim 2 wherein:
 - a. said frame is adapted to at least partially surround said smaller power boat; and
 - b. means are provided between said well forming means and said frame for permitting said frame to selectively project forwardly of said well while retaining said smaller power boat with respect to said well forming means.
6. The structure as set forth in claim 2 wherein:
 - a. said boat structure includes a deck section at said forward end and means for selectively lifting and lowering said deck section to provide vertical clearance for receiving said smaller power boat into said well.
7. The structure as set forth in claim 6 wherein:
 - a. said deck section includes clearance structures receiving upwardly projecting portions of said smaller power boat upon lowering said deck section.
8. In a boat structure having a forward end:
 - a. means forming a well above water level and extending horizontally beneath said boat structure, said well forming means at least partially defining an access opening into said well at said forward end; and
 - b. retaining means associated with said well forming means and selectively retaining a smaller power boat within said well, said smaller power boat having propelling means for providing motive power to said structure, said retaining means including a rigid horizontally displaceable frame having portions selectively movable from a retaining position to a second position permitting entry and exit of said smaller boat into and out of said well through said forward access opening, at least one of said frame portions being pivotable, a member secured to said frame and movable with said pivotable portion from a first position in said access opening to a second position providing clearance for said smaller power boat when entering said well, said movable member forming a blockage to said access opening at the bow of said structure when said movable member is in said first position.
9. The structure as set forth in claim 8 wherein:
 - a. said well forming means includes spaced apart floatation members and a deck forming member extending therebetween above said smaller power boat, said deck forming member having means associated therewith providing ingress to and egress from said smaller power boat when it is retained within said well.
10. The structure as set forth in claim 3 wherein:

- a. said movable member is adapted to move downwardly below water level to said second position permitting said smaller power boat to pass there-over.
- 11. The structure as set forth in claim 3 wherein: 5
 - a. said structure includes a deck section having at least two levels, one of said levels being above said smaller power boat and extending aft from the bow end of said structure and terminating at the other of said levels, said other level being lower than said one level and extending aft therefrom. 10
- 12. The structure as set forth in claim 8 including:
 - a. means operatively connected to said smaller power boat propelling means and adapted to permit control of same from a remote position. 15
- 13. The structure as set forth in claim 8 wherein:
 - a. said movable member substantially closes said access opening in said first position.
- 14. The structure as set forth in claim 13 including: 20
 - a. means associated with said movable member and adapted to selectively retain said movable member in said first position.
- 15. The structure as set forth in claim 8 wherein:
 - a. said retaining means includes a cross brace 25
 - mounted on portions of said frame and extending substantially across said well forward of the bow of said smaller power boat, said cross brace being selectively movable forward and aft along said frame portions providing adjustment to compensate for different lengths of said smaller power boat. 30
- 16. The structure as set forth in claim 15 including:
 - a. a bow pad mounting on said cross brace for engaging the bow of said smaller power boat. 35
- 17. The structure as set forth in claim 15 including:
 - a. means associated with said frame and said cross brace and operable for permitting vertical adjustment of said cross brace to compensate for different sizes of said smaller power boat. 40
- 18. The structure as set forth in claim 8 wherein:
 - a. said well forming means includes at least two floatation members in spaced apart relation each extending rearwardly from the bow of said boat struc- 45

- ture, said floatation members each including an upper portion and a lower portion, said lower portions being movable downwardly from a raised position to a lowered position relative to the respective upper portions.
- 19. The structure as set forth in claim 18 wherein:
 - a. said well is partially defined by a member extending between said floatation members in spaced relation to the water level;
 - b. said retaining means includes retaining brackets mounted on said members extending between said floatation member and adapted to engage portions of said smaller power boat; and
 - c. said floatation member lower portions extend partially under portions of said smaller power boat and engaging same when in the raised position.
- 20. The structure as set forth in claim 18 wherein:
 - a. said floatation members extend aft and terminate at a hull portion of said structure, said hull portion having a substantially flat bottom extending the width of said structure.
- 21. The structure as set forth in claim 18 including:
 - a. a second member secured to said frame structure and movable with said movable frame portions from a first position substantially closing said access opening to a second position providing clearance for said smaller power boat when entering said well; and wherein
 - b. said movable frame portions and said movable member and said lower portions are operatively connected whereby movement of said lower portions effects movement of said frame portions and movement of said movable member for providing clearance for said smaller power boat when entering said well.
- 22. The structure as set forth in claim 18 including:
 - a. hinge means secured at aft portions of said floatation member lower portions and to said respective floatation member upper portions whereby said relative downward movement is pivotal movement about said hinge means.

* * * * *

50

55

60

65