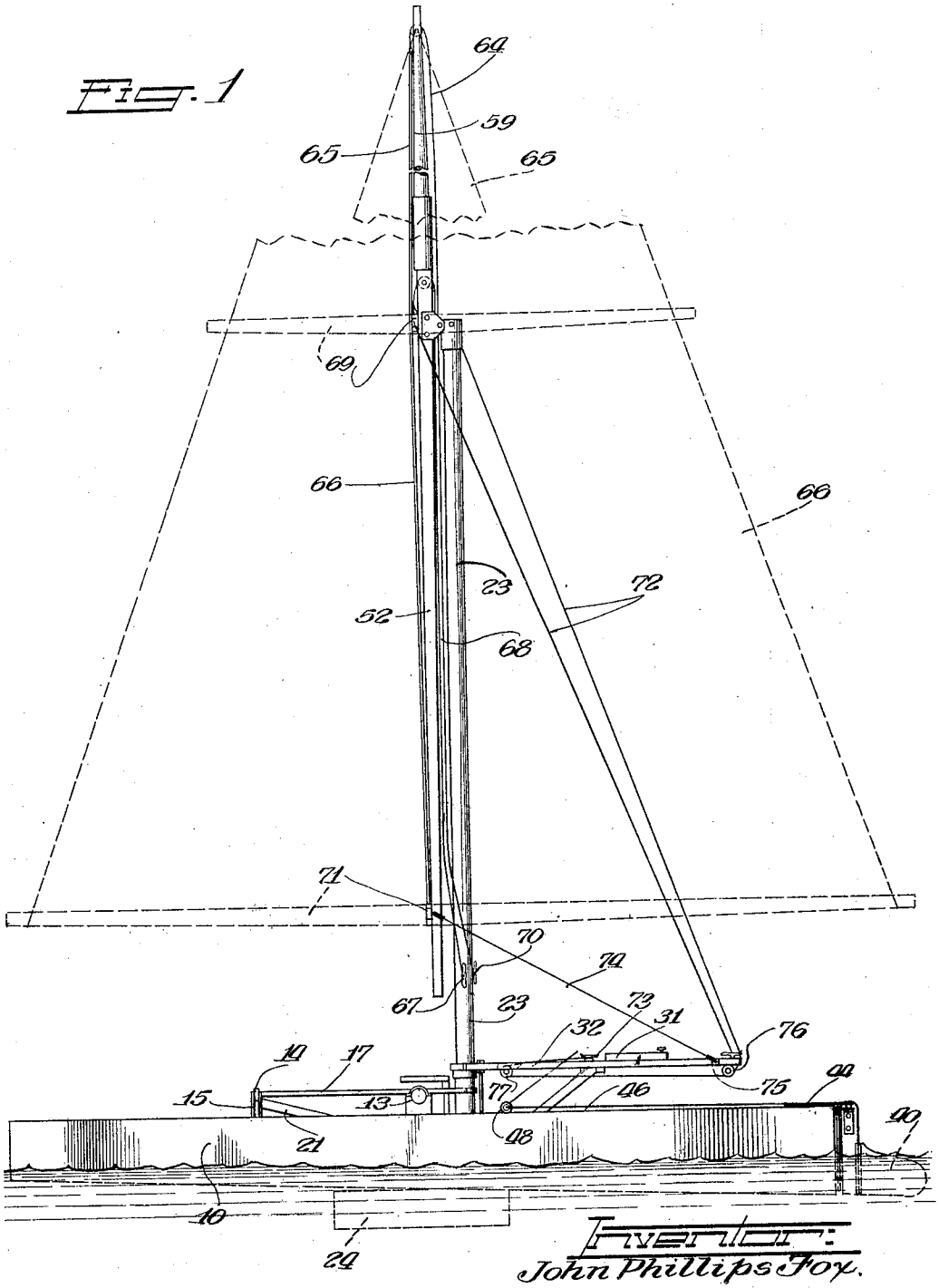
Nov. 1, 1932. J. P. FOX 1,885,247

SAILBOAT

Original Filed July 17, 1929 4 Sheets-Sheet 1

Fig. 1



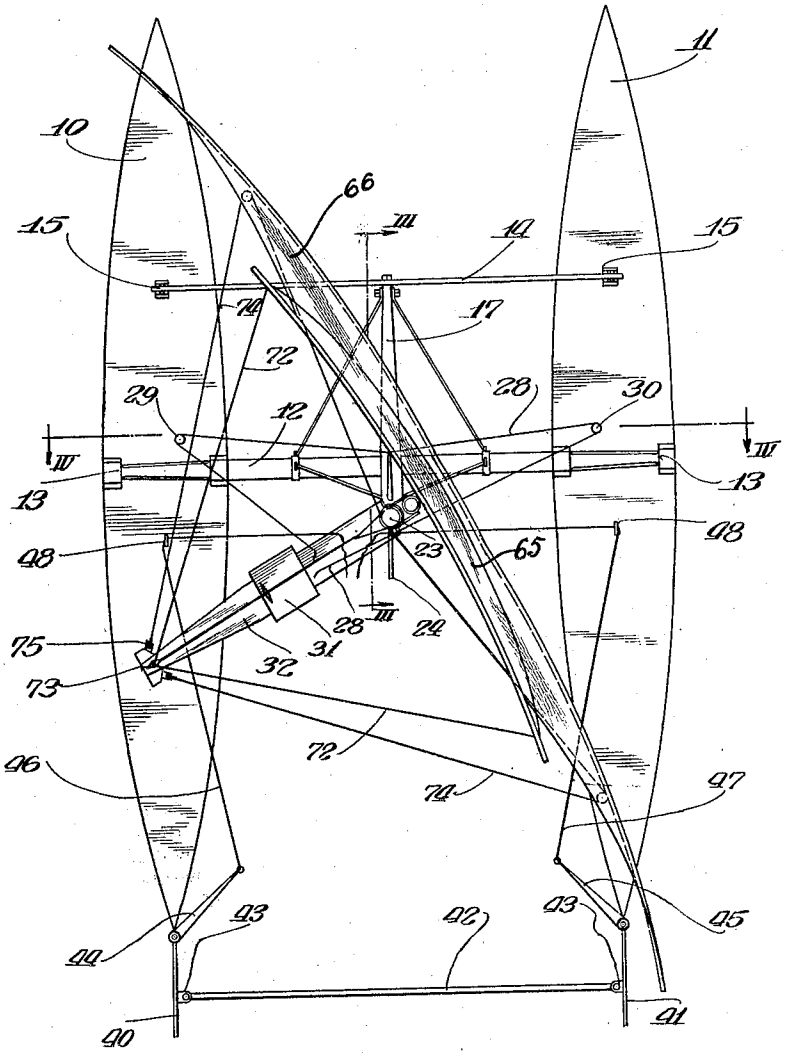
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SAILBOAT

Original Filed July 17, 1929 4 Sheets-Sheet 2

Fig. 2



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SAILBOAT

Original Filed July 17, 1929 4 Sheets-Sheet 3

Fig. 3

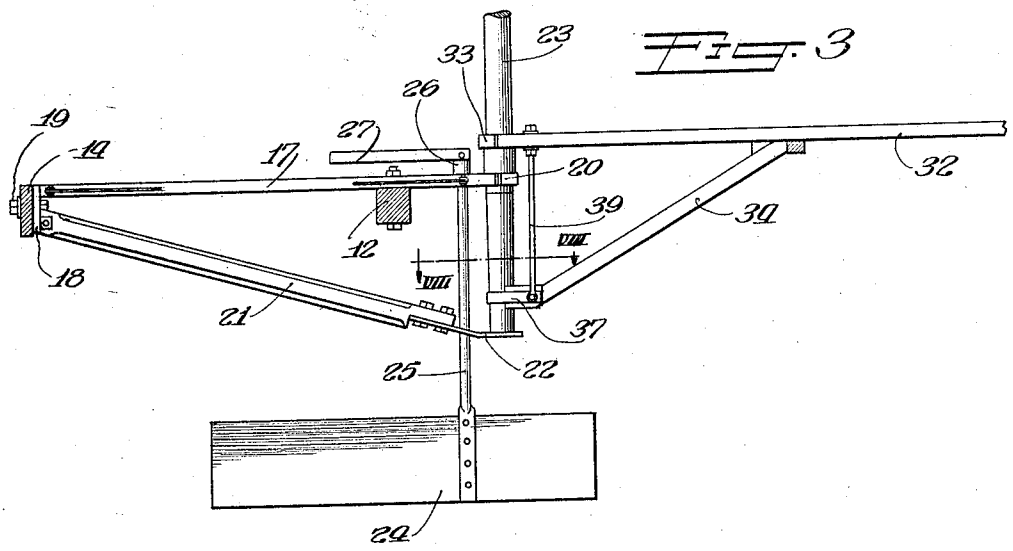
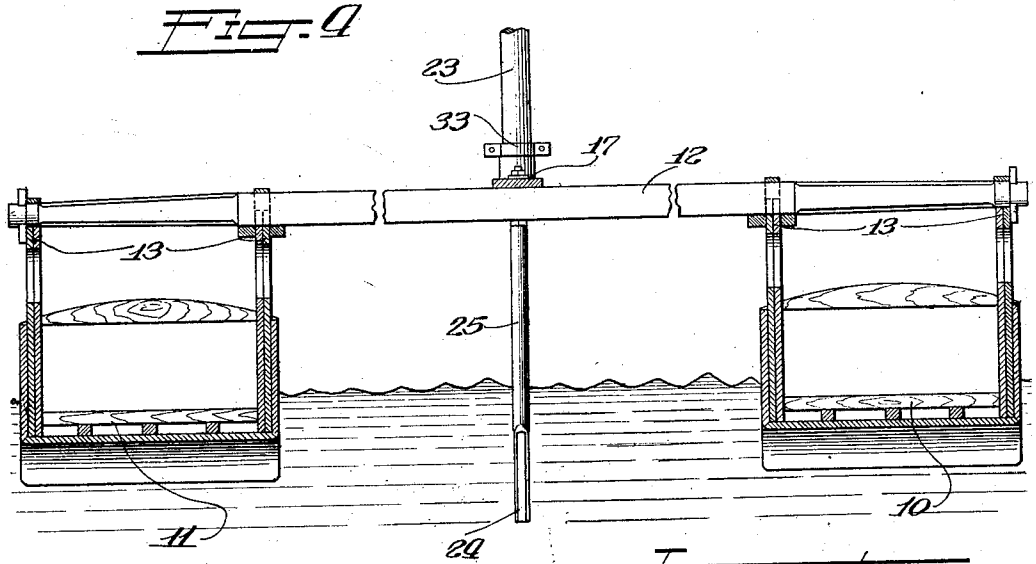


Fig. 4



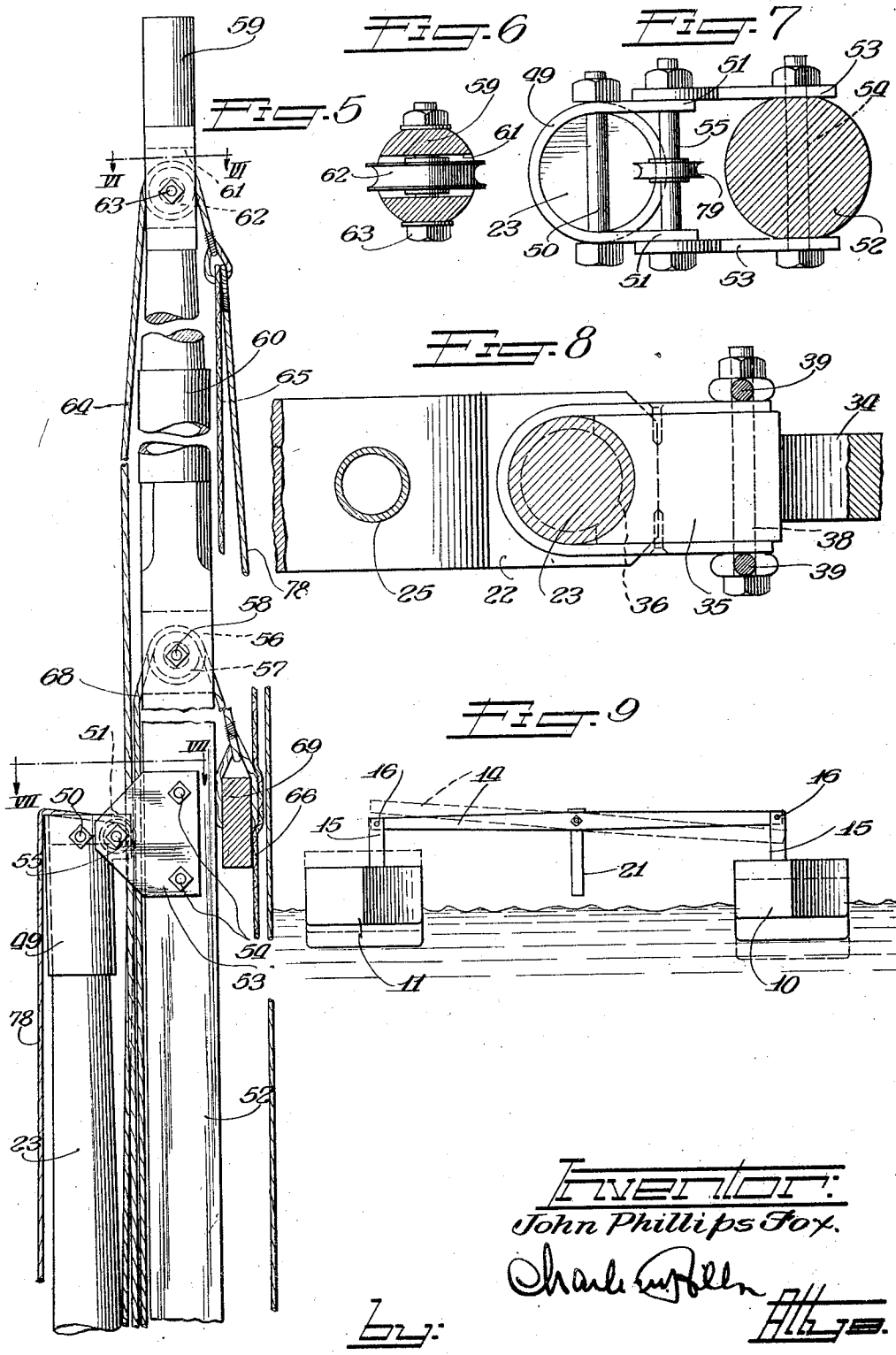
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Nov. 1, 1932. J. P. FOX 1,885,247

SAILBOAT

Original Filed July 17, 1929 4 Sheets-Sheet 4



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Patented Nov. 1, 1932 1,885,247

UNITED STATES PATENT OFFICE

JOHN PHILLIPS FOX, OF GARY, INDIANA

SAILBOAT

Application filed July 17, 1929, Serial No. 378,877. Renewed March 4, 1932.

This invention relates to improvements in sail boats, and more particularly to small pleasure boats, the invention being highly desirable for incorporation in a small single masted boat, although the invention may have other and various uses as will be apparent to one skilled in the art.

An object of this invention is to provide a sail boat or similar floating craft utilizing a sail which is pivotally and swingably arranged with respect to the mast of the ship so that the force of the wind tends to lift both the sail and the boat, the lifting of the sail being controlled by the skipper.

Another object of the present invention is to provide a sail boat with a pivotally supported center board to compensate for leeway, wind pressure, and direction.

A further object of this invention is to provide a sail boat having a seatboard for the skipper, which board is arranged to swing laterally around the mast with the mast as a center so that it may assume a position extending in the opposite direction from the mast with respect to the sail and thus oppose the weight of the sail and the wind pressure thereon.

Still another object of this invention is to provide a sail boat wherein the sheets, halyards, and rudder connections are so arranged with respect to a swinging seat for the skipper that the boat may be entirely controlled from the said seat.

While some of the more salient features, characteristics and advantages of a device embodying this invention have been above pointed out, others will become apparent from the disclosures.

The invention includes these and other features of construction and combinations of parts hereinafter described, and shown in a preferred form in the drawings, as more particularly indicated by the claims.

On the drawings:

Figure 1 is a side elevation of a boat embodying principles of the present invention, showing the port side of the same.

Figure 2 is a top plan view of the structure shown in Figure 1, with the peak of the sail in lowered position.

Figure 3 is a fragmentary sectional view, with parts removed, taken substantially as indicated by the line III—III of Figure 2.

Figure 4 is a fragmentary sectional view with parts removed, taken substantially as indicated by the line IV—IV of Figure 2.

Figure 5 is an enlarged fragmentary view in elevation of the mast and sprit showing details of construction.

Figure 6 is a plan sectional view taken substantially as indicated by the line VI—VI of Figure 5.

Figure 7 is a plan sectional view taken substantially as indicated by line VII—VII of Figure 5.

Figure 8 is an enlarged fragmentary plan sectional view taken substantially as indicated by the line VIII—VIII of Figure 3.

Figure 9 is a diagrammatic front elevation, with parts omitted, showing compensating means for maintaining the two pontoons in properly spaced relationship.

As shown on the drawings:

In the structure selected to illustrate an embodiment of the present invention, there is shown a pair of spaced hulls or pontoons 10 and 11 respectively, connected adjacent the mid-portions thereof by a cross beam 12 which is pivotally connected adjacent each end thereof to the pontoons 10 and 11, respectively, by means of the rocker bearings 13 attached to each of the pontoons.

Forwardly of the beam 12, the two pontoons 10 and 11 are connected by a compensating bar 14 which is pivoted at each end thereof to uprights 15 by means of pivot pins 16, as shown more clearly in Figure 9. A strut 17 secured to the cross beam 12 extends fore and aft thereof, the forward end of the strut being connected to a block 18 to which the compensating bar 14 is pivoted by a bolt 19 so that the compensating bar may pivot on a horizontal axis. The after end of the strut 17 is provided with a strap 20 for engagement around a mast. Also secured at its forward end to the block 18 is a brace 21 which extends downwardly and rearwardly therefrom and is provided at its rear end with an angular foot plate 22 for supporting

a mast 23, the mast passing through the strap 20 attached to the strut 17.

To aid in the proper controlling of the boat, a centerboard 24 is fixedly secured to a rotatable vertical shaft 25 passing through the foot plate 22 and strut 17 and held in position by a collar 26, there being a tiller secured adjacent one end thereof to the upper part of the shaft 25. The angular position of the centerboard 24 is controlled by means of a tiller line 28 connected substantially centrally thereof to the tiller 27, opposite portions of the line passing over pulleys 29 and 30 secured to the pontoons 10 and 11 respectively, the loose ends of the line terminating adjacent a skipper's seat 31 where they may be controlled by the skipper in any desired manner.

The skipper's seat 31 is slidably supported on a seat-board 32, the fore end of which is strapped to the mast 23 as indicated at 33, the rear portion of the seatboard being supported by a brace 34, having an angularly disposed forward end 35 (Figure 8) which has an arcuately cut out end to fit within a groove 36 in the mast 23, the end 35 of the brace 34 being retained in this groove by a strap 37 which engages around the mast. The rear ends of the strap 37 are connected to the end 35 of the brace by means of a bolt 38 which passes through the brace, this bolt also holding the lower ends of a pair of eyebolts 39 which are connected at their upper ends to the seatboard 32 to maintain the fore end of the seatboard and brace in their proper separated position, the entire structure including the seatboard and brace being laterally pivotal about the mast.

For the proper guidance of the boat, a pair of rudders 40 and 41 are provided and secured one to the rear end of each of the pontoons 10 and 11 respectively, the rudders being connected for simultaneous operation by a reach rod 42 pivotally connected at each end thereof to the respective rudders as indicated at 43. The rudders 40 and 41 are provided with tillers 44 and 45 respectively, the tillers extending angularly from the rudders to afford better leverage. The tillers 44 and 45 are controlled by tiller lines 46 and 47 respectively, each tiller line passing through a dead eye 48 secured on the corresponding pontoons 10 and 11, the free ends of the tiller lines terminating adjacent the skipper's seat 31 where they may be manipulated in any desired manner by the skipper.

At the upper end thereof, the mast 23 is provided with a cap 49. This cap may be rotatable relatively to the mast, or if so desired, the mast may be rotatably stepped, each alternative providing the desired result. In the event the cap 49 is to be rotatable relatively to the mast, the cap is preferably provided with a bolt 50 extending diametrically therethrough to prevent the cap descending upon the tapered mast and thus binding upon the same. The cap 49 is provided with a pair of opposed ears 51 for a purpose that will later appear.

A sprit 52 has a pair of opposed side plates 53 secured thereto by means of bolts 54, the side plates being in turn pivotally connected to the ears 51 by means of a pintle 55, so that the sprit may have swinging action with respect to the mast and relatively to the cap 49. Above the side plates 53, the sprit is provided with a diametrical slot 56 in which a sheave is mounted on a shaft 58 extending through the sprit transversely to the slot.

For the purpose of convenience in forming the same, the sprit 52 is provided with a separate upper portion 59 which is secured to the lower portion 52 by means of a sleeve 60. This upper portion 59 of the sprit is also provided with a diametrical slot 61 in which a sheave 62 is supported on a transverse shaft 63, in similar manner to the sheave 57.

A peak halyard 64 passes over the sheave 62 and is secured at its upper end to the peak 65 of a sail 66, and the other end of the halyard is belayed to a cleat 67 in the lower portion of the mast. A second halyard 68 passes over the sheave 57 and is attached at its upper end to an upper yard 69 and at its lower end is belayed to a cleat 70 secured to the mast adjacent the cleat 67. The upper portion of the main part of the sail 66 is secured to the upper yard 69, and the lower portion of this sail is secured to a main yard 71 which is secured to the sprit 52 adjacent the lower end thereof.

To enable the skipper to properly control the sail, yard sheets are provided which in this instance embody a pair of upper yard sheets 72 secured adjacent the outer ends of the upper yard 69 and fastened to a cleat 73 adjacent the outer end of the seatboard 32; and a pair of main yard sheets 74 secured to the main yard adjacent the ends thereof and cleated or otherwise secured to the seatboard 32 as indicated at 75.

The operation and sailing of the above described craft are exceedingly simple in view of the fact that all of the tiller lines, sheets, and halyards are within easy reach of the skipper. Obviously, the free ends of the tiller lines may be connected by the skipper so as to be controlled by his hands or his feet as is found the most expedient. When the boat is in use, the wind will pivot the sail around the mast or a vertical axis, this movement of the sail, of course, being controlled by the skipper through the sheets 72 and 74. In the event the cap 49 is rotatable relatively to the mast, it becomes necessary for the skipper to kick or otherwise move the seatboard 32 around the mast into a position substantially opposite to the sail so that the weight of the skipper's body will counterbalance the weight of the sail and the wind pressure thereon.

In the event the entire mast is rotatable, the seatboard 32 and consequently the skipper's seat 31 will be automatically swung into position so as to oppose the weight of the sail and the pressure thereon. In the event the wind becomes too strong, the peak 65 of the sail may be lowered very easily by means of the halyard 64, and when so desired, the entire sail may be lowered by means of the halyards 64 and 68.

It will be noted that the wind will also cause the sail to swing outwardly with respect to the mast due to the pivotal connection by means of the pintle 55 between the plates 53 and the ears 51 on the cap 49. This swingable movement of the sail is of course controlled by the skipper through the sheets 72 and 74. When permitted to swing outwardly, the sail will assume a position somewhat akin to that of a kite so that the resultant force of the wind will tend to elevate the sail and consequently the boat also, whereby the boat has a very shallow draft and is capable of traveling at considerable speed. In addition, the craft is always kept in a well balanced condition and is exceedingly stable, since as seen more clearly in Figure 9, the pontoons 10 and 11 may rock relatively to each other and even in opposite directions to each other, due to the pivotal connections at 16 for the connecting rod 14, and at 43 for the reach rod 42.

Although the present invention has been disclosed and described herein as embodied in the form of a catamaran or similar craft, and apparently for only one passenger, namely the skipper, it is of course understood that the present invention may be incorporated in many and various styles of craft for the accommodation of one or a plurality of passengers.

From the foregoing, it will be apparent that I have provided a novel sailing vessel in which the sail, seatboard for the crew, sheets, tiller lines, etc., are pivotal separately or as a unit about the mast of the vessel as a vertical center, the seat or seats for the crew being slidable on the seatboard so that the weight of the sail and wind pressure thereon may be counterbalanced at all times. Moreover, the sail is outwardly swingable relatively to the mast so that the resultant force of the wind will tend to elevate both the sail and the boat, and consequently a sail of considerable area may be utilized on the present invention. The effective said area may be varied at will by the skipper or crew. Furthermore, the present invention is provided with easily operable and positive means for compensating for or eliminating leeward movement of the boat when the same is not desired. In addition, a boat embodying principles of the present invention has a very shallow draft, is capable of considerable speed, is very expeditiously manipulated and may be economically manufactured.

The sheets 74 passed about pulleys 76 on the underside of the seat board 32 thence pass forwardly towards the mast over pulleys 77 in the seat board near the mast upwardly through suitable apertures in the seat board where the same may be cleated at 73. This is true also of the upper yard sheets 72.

The seat board 32 will therefore when the yard sheets are cleated in the manner just described swing with the sail whenever the same swings about the mast so as to maintain at all times the seat board in opposed relation to the sail.

The bottoms of the pontoons 10 and 11 may if desired be stepped for increasing the speed of the boat when pontoons or hulls of similar character are employed.

A down haul 78 is secured to the peak of the sail and passes downwardly against the front surface of the sail about the main yard 71 and then upwardly over a sheave 79 disposed adjacent the masthead when the down haul 78 passes downwardly and is cleated to the mast.

The tiller line 46 may if desired pass about the mast and be cleated to the seat board in a convenient position for the skipper.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted, otherwise than necessitated by the prior art.

I claim as my invention:

1. In a sailing craft, floatable means, a mast thereon, and sail supporting means including a vertical sprit attached immediate its ends to said mast, said sail supporting means being pivotal about said mast as a vertical center and swingable relatively to said mast about a transverse center, and a sail on said sail supporting means attached thereto intermediate its top and bottom adjacent the mast head whereby the portion of the sail above said attachment may be lowered for reducing sail area.

2. In a device of the character described, floatable means, a mast thereon, a vertical sprit pivoted intermediate its ends to said mast, a yard secured to said sprit, a second and free yard, a sail on said yards swingable with said sprit away from said mast, and sheets connected to said yards for controlling the movement of said sail.

3. In a sailing craft, floatable hull means, a sail therefor, a seatboard for the crew in opposition to said sail, and sheets connected to said sail and operable from said seatboard, said sail, seatboard and sheets being simultaneously pivotal about a substantially vertical center.

4. In a sailing craft, floatable hull means, a sail thereon, a seatboard for the crew mounted to oppose the weight of the sail and

the wind pressure thereon, a rotatable centerboard depending below the water line of said craft, rudder means on said hull means, and tiller lines connected to said centerboard and rudder means and operable from said seatboard.

5. A sailing craft including in combination, a mast, a vertically disposed sprit pivoted intermediate its ends to said mast on a horizontal pivotal axis whereby said sprit may swing about said axis relatively to the mast, and said sprit also having bodily pivotal movement about the vertical axis of the mast as a center.

6. A sailing craft including in combination, a mast, a vertically disposed sprit pivoted intermediate its ends to said mast on a horizontal pivotal axis whereby said sprit may swing about said axis relatively to the mast, and said sprit also having bodily pivotal movement about the vertical axis of the mast as a center, a yard at the lower end of said sprit, a sail secured to said yard, and a halyard riven through said sprit for raising and lowering said sail on said sprit.

7. A sailing craft including in combination, a mast, a vertically disposed sprit pivoted intermediate its ends to said mast on a horizontal pivotal axis whereby said sprit may swing about said axis relatively to the mast, and said sprit also having bodily pivotal movement about the vertical axis of the mast as a center, a yard at the lower end of said sprit, a sail on said yard, an upper yard below the upper end of the sprit, a halyard for said upper yard riven through said sprit, and a peak halyard riven through said sprit for the peak of the sail.

8. A sailing craft including a mast, a sprit horizontally pivoted intermediate its ends to the top of the mast, a sail carried by said sprit, and halyards riven through said sprit for raising and lowering said sail on said sprit.

9. A sailing craft including a mast, a sprit horizontally pivoted intermediate its ends to the top of the mast, a sail carried by said sprit, and halyards riven through said sprit for raising and lowering said sail on said sprit, a seat supported on said mast and swingable thereabout, sheets connected to said sail and leading to and cleated to said seat.

10. A sailing craft including a mast, a sprit horizontally pivoted intermediate its ends to the top of the mast, a sail carried by said sprit, and halyards riven through said sprit for raising and lowering said sail on said sprit, said sprit having bodily pivotal movement about the mast axis as a center, a seat supported on said mast and swingable about the mast axis, sheets connected to said sail and leading to and cleated to said seat whereby said seat, sprit and sail all are caused to swing simultaneously about the mast axis.

11. A sailing craft, a mast thereon, a vertical sprit pivoted intermediate its ends to the mast, a sail on said sprit, a seatboard pivotal about the mast axis whereby the seatboard and crew thereon may counterbalance the weight of said sail and the wind-pressure thereon, said seatboard being tied to the sail for swinging movement about the mast axis by sheets connected to the sail and cleated to said board.

12. A sailing craft, a mast therein, a vertically disposed sprit pivoted intermediate its ends to the top of the mast, a sail on said sprit, a seatboard swingable about the mast axis, a centerboard supported for rotation about a vertical axis, a tiller connected to said centerboard, tiller lines connected to said tiller and leading to and cleated to said seatboard, a rudder, a rudder-tiller and tiller lines, said last mentioned tiller lines also leading to and cleated to said seatboard whereby the crew on said seatboard may control any movement of said craft as desired, and sheets leading from the sail to said seatboard.

In testimony whereof I have hereunto subscribed my name at Gary, Lake County, Indiana.

JOHN PHILLIPS FOX.