United States Patent [19]

Britton

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[45] **May 1, 1973**

[54] **METHOD OF ADAPTING ROLLER WINGS TO OTHER SAILING CONFIGURATIONS**

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[22] Filed: **Nov. 2, 1971**

[21] Appl. No.: **194,848**

[52] **U.S. Cl.** **114/106**

[51] **Int. Cl.** **B63h 9/04**

[58] **Field of Search** 114/102–107

[56] **References Cited**

OTHER PUBLICATIONS

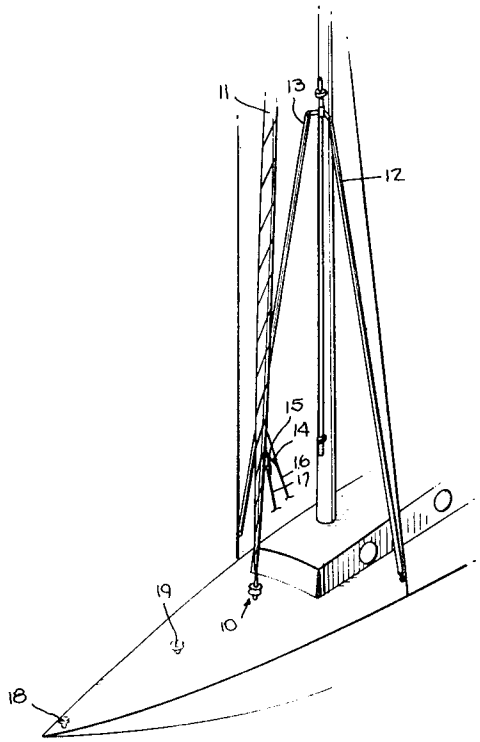
Britton, Wright; "A Lazy Man's Delight: Roller Wings"; Yachting (Magazine); August, 1965.

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[57] **ABSTRACT**

The method of converting sails called Roller Wings, which are mounted on a wire and attached attached to a furling gear and used when the only wind available is dead astern, into different sailing configurations suitable for other types of winds, by moving the furling gear to a preselected point, altering the alignment of the wings to meet the desired configuration and unfurling the wings in such a way as to achieve the new configuration.

6 Claims, 10 Drawing Figures



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3 Sheets-Sheet 1

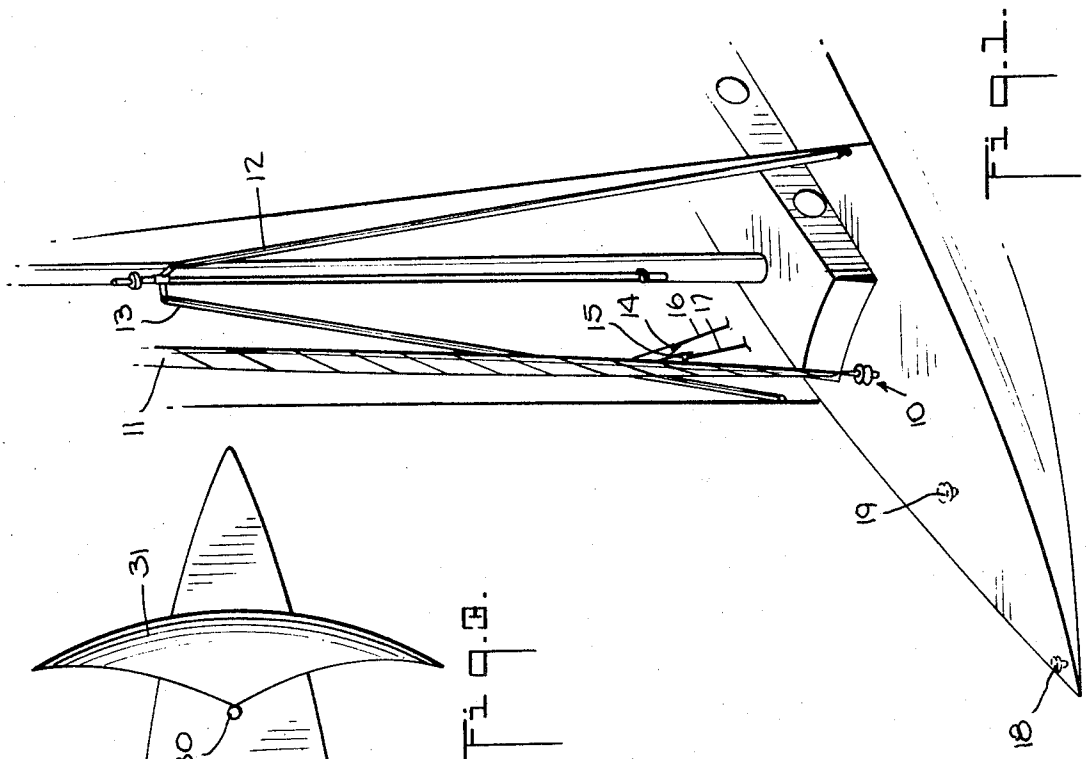


Fig. 1.

Fig. 3.

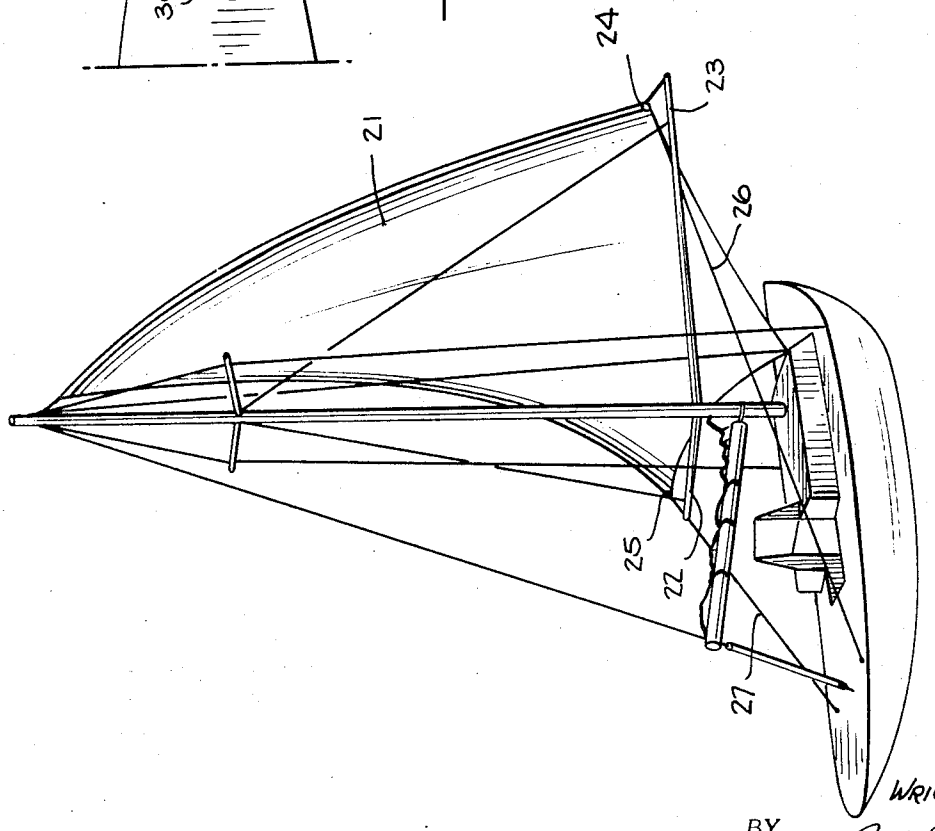


Fig. 2.

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Fig. 4.

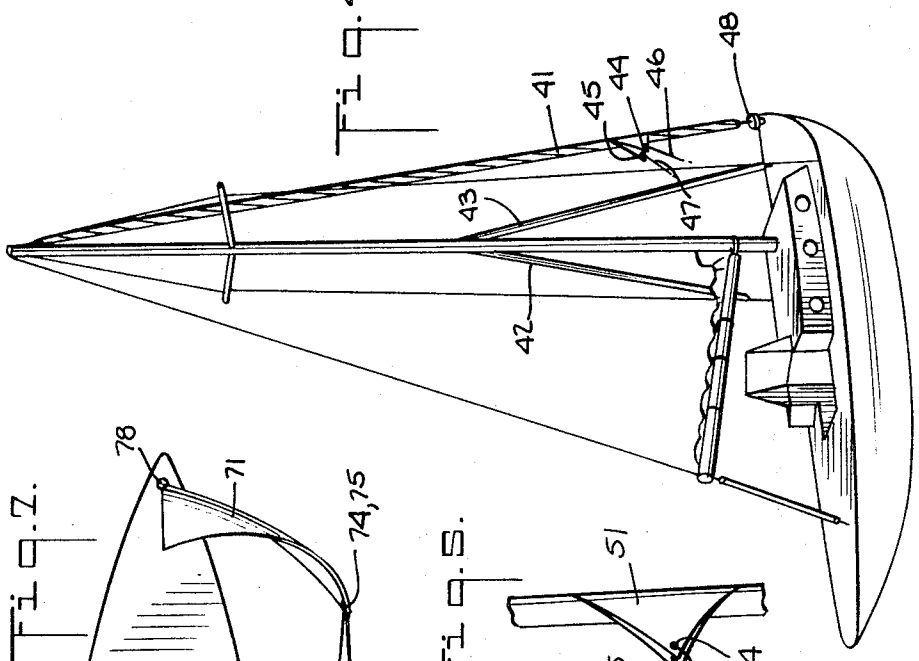
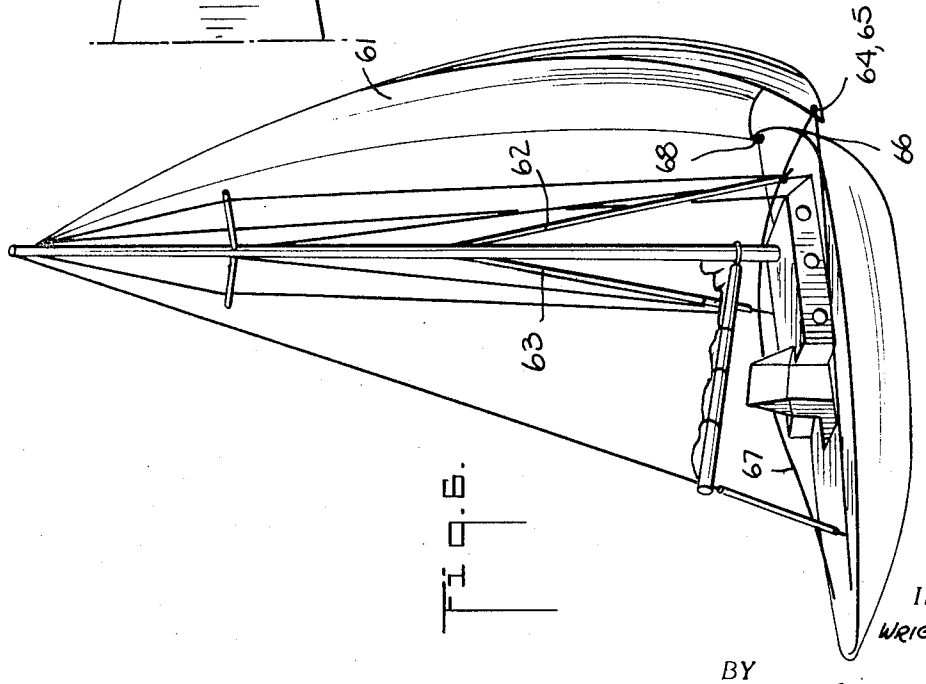


Fig. 7.

Fig. 5.

Fig. 6.



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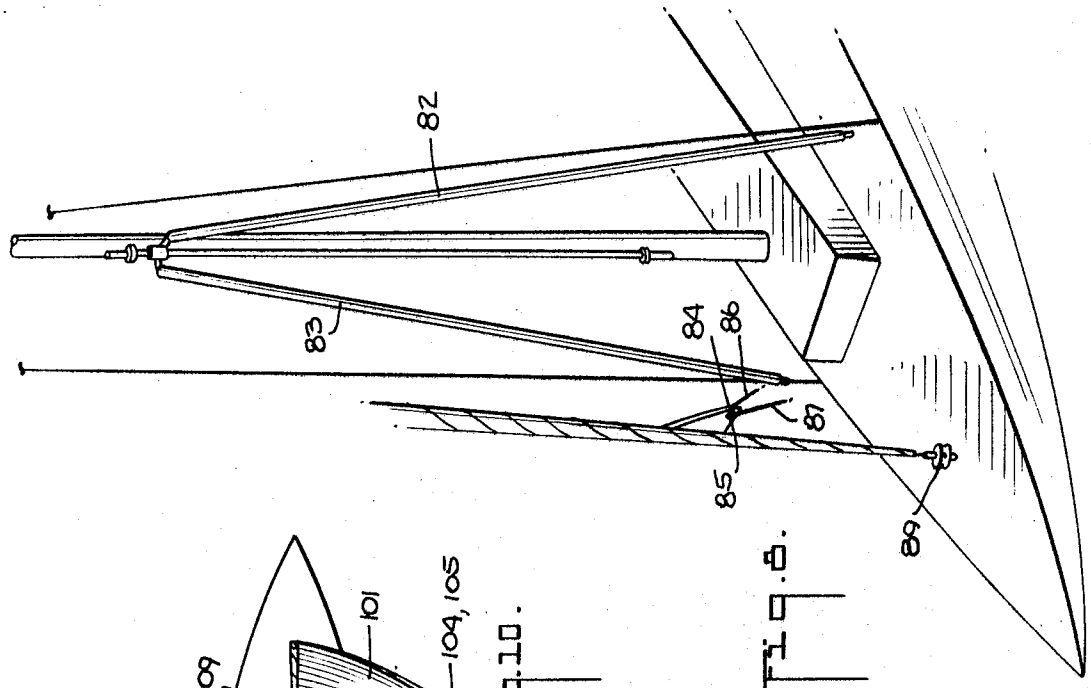


Fig. 9.

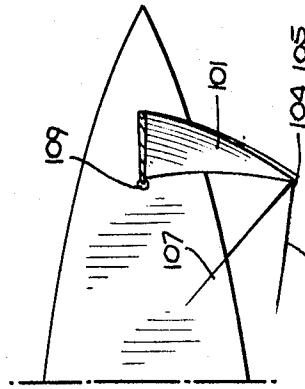


Fig. 10.

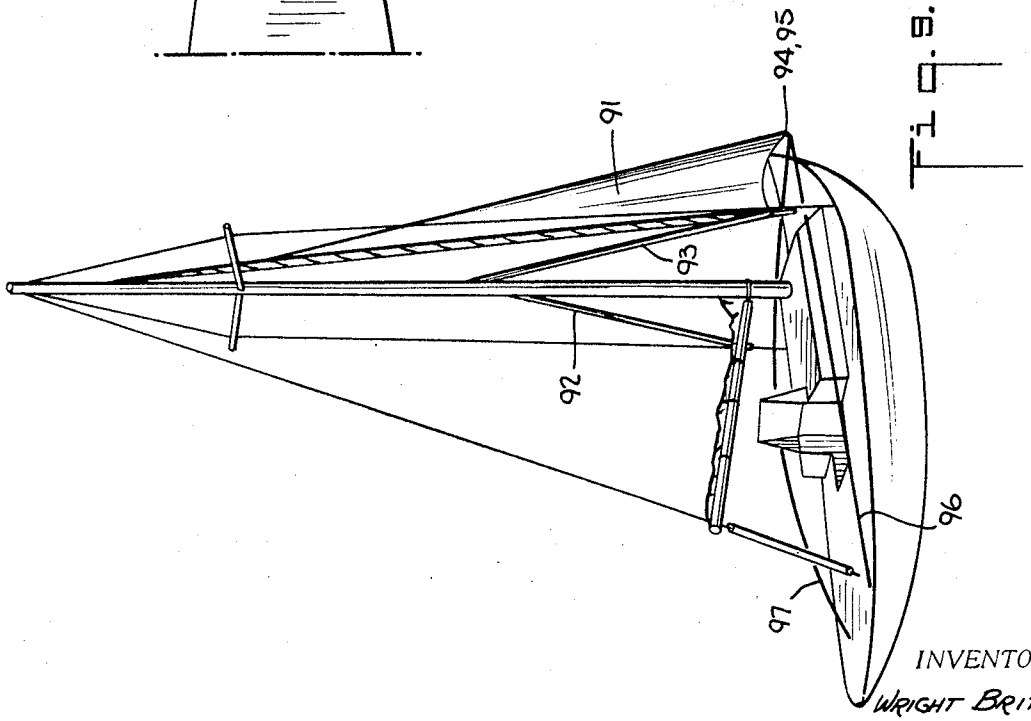


Fig. 11.

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METHOD OF ADAPTING ROLLER WINGS TO OTHER SAILING CONFIGURATIONS

BACKGROUND OF THE INVENTION

My invention consists of a method of converting what have come to be known as Roller Wings, into a different sail configuration. In order to completely understand my invention, it is necessary to have an understanding of the Roller Wings themselves. They are described in detail in an article written by me entitled "A Lazy Man's Delight: ROLLER WINGS", which appeared in the August, 1965 edition of Yachting magazine.

Basically, Roller Wings were designed by me to be used when the only wind available to propel a sailing vessel was dead astern. This kind of wind presented a problem for the typical fore and aft rig which is prevalent in sailing today, since the jib would be completely blocked from the wind by the mainsail. Typical solutions to this problem have been the use of a spinnaker to replace the jib, winging out the jib by a spinnaker pole or sailing with only the mainsail or jib alone. All of these methods detract from the efficiency of the vessel and are tedious to set and unset when the wind changes requiring a different sail configuration. Further, they all almost always require more than one person in order to achieve the desired result. Thus, I wanted a system which would eliminate these problems and which could be easily handled by only one person.

The solution was to have two sails—the twins—sewed on one luff wire which would extend from the masthead to a furling gear on the foredeck. In addition there were two special poles permanently attached to the spinnaker pole mast track which was extended to accommodate the poles. In addition, each pole was provided with its own topping lift and stowed along the forward shrouds and tied to the lifelines when not in use. The furling gear was attached to the deck by bolting a standard screw pad-eye to the deck and four bolts were tightened up on an Everdur plate twice the size of the pad-eye. The furling gear is then attached to the pad-eye by screwing the eye into the threaded pad and attaching the furling gear to it by a shackle.

The system was then ready to operate. To set the sails, the poles were released and slid down the track. The topping lifts kept the poles at the right height. The roller furling trip line is then released and by hauling on both sheets the Roller Wings are set. All this can be done by only one person in ten minutes at the most and has taken one person as little as three and one half minutes. To furl the wings the sheets are released and the trip line pulled and the sails roll up very easily. The poles are lifted and lashed to the lifelines and the job is completed.

DESCRIPTION OF THE INVENTION

This accomplished the purpose of having developed a sail which is efficient and easy to handle in dealing with a dead astern wind. However, the wind is not always dead astern and the Roller Wings are of little use in other types of wind. Thus, it is desirable to be able to convert the wings to other types of sailing configurations to be used under varying circumstances. This is the object of the invention herein described which can be fully understood by reference to the following drawings where:

FIG. 1 shows the Roller Wings furled and the poles stowed preliminary to the wings being used in their Roller Wing configuration;

FIG. 2 shows the wings unfurled and in use in the Roller Wing configuration;

FIG. 3 is a schematic view of the sails unfurled in the Roller Wing configuration;

FIG. 4 shows the wings furled and the poles stowed preliminary to being used in their jib configuration;

FIG. 5 shows the clews as they are adjusted to convert to the jib or staysail configuration;

FIG. 6 shows the wings unfurled and in use in the jib configuration;

FIG. 7 is a schematic view of the wings unfurled in the jib configuration;

FIG. 8 shows the wings furled and the poles stowed preliminary to being used in the staysail configuration;

FIG. 9 shows the wings partially unfurled and in use in the staysail configuration.

FIG. 10 is a schematic view of the wings unfurled in the staysail configuration.

Referring first to FIG. 1 the Roller Wings 11 are shown furled with sheets 16 and 17 attached to clews 14 and 15 respectively. The poles 12 and 13 are stowed with their ends secured to the lifelines. The roller mechanism is shown at 10. In operation, referring now to FIG. 2, the poles 22 and 23 are released from the lifelines and slid down the track until they reach the positions shown. The trip line of the roller is released and the wings 21 unfurl to the position shown. Sheets 26 and 27 are secured to clews 24 and 25 and run to the stern of the boat where they can be secured or used to control the wings. When this is done the wings 31 have the configuration shown schematically in FIG. 3 where the roller mechanism is indicated at 30.

When the wind changes it may be desirable to convert the Roller Wings into a common jib configuration. To accomplish this the sheets 26 and 27 are released, the trip line of the roller pulled and the wings roll up again as they appear in FIG. 1 at 11. The poles are again stowed as shown at 12 and 13 of FIG. 1 and the wings are ready to be converted into a jib. This is accomplished by unshackling the roller shown at 10 and moving it to position 18. This is shown in FIG. 4 where the roller is designated as 48, the rolled up wings as 41 and the poles as 42 and 43. Since, as explained, the roller is simply shackled to the pad-eye it is easily movable. The wings are furled on the luff wire which can be adjusted since its halyard runs over a block and down the mast. Thus, by letting out a little bit of the halyard the top of the wings is let down enough to allow the roller 48 to be moved to position 18. Hence, the furled wings are now at an acute angle to the deck rather than being perpendicular to the deck. This is the position necessary for the jib configuration. In order to convert the wings into a jib after moving the roller as above, the clews 44 and 45 are placed together so that their respective grommets line up as shown more clearly in FIG. 5. The forward ends of both sheets 46 and 47 are attached through both grommets as shown more clearly in FIG. 5 so that both sheets 56 and 57 now originate at the common point made up of the lined up grommets of clews 54 and 55 of the wings 51, and diverge toward the stern of the boat. The forward ends of the sheets accomplish the purpose of holding

clews **54** and **55** together. Thus, with the respective clews of the wings lined up and held together by the sheets, when the trip line is released and the wings unfurled they unfurl in the jib configuration as shown in FIG. **6** where **68** indicates the roller mechanism, **61** indicates the two wings, one folded over upon the other, their respective clews **64** and **65** being joined together and sheets **66** and **67** diverging toward the stern of the boat. In this jib configuration the poles **62** and **63** are not needed and they remain stowed to the lifelines as shown in FIG. **6**. The resulting configuration is that of a typical jib as shown schematically in FIG. **7** where **71** indicates the wings in their jib configuration, **78** indicates the roller mechanism, **74** and **75** the respective clews joined together and **76** and **77** the sheets diverging toward the stern of the boat.

It is also sometimes desirable to have a staysail. The Roller Wings may be converted to a staysail configuration either from the Roller Wing configuration or from the jib configuration. In either case, the wings are furled and the roller moved to the position shown in FIG. **1** as **19** and as shown in FIG. **8** as **89**. When the conversion is from the jib configuration everything remains as it was in the jib configuration, i.e., the clews **84** and **85** aligned and the sheets **86** and **87** both connected to both clews through their respective grommets, except the roller is moved from position **18** to position **19**. However, when the sail is unfurled it is only partially unfurled as shown in FIG. **9**. Thus, with the roller at position **19** and the wings only partially unfurled the result is a typical staysail.

When the conversion is from the Roller Wing configuration to the staysail configuration the roller is moved from position **10** to position **19** and the wings are connected in the same way as described above for the jib configuration except that for the staysail configuration the sail is only partially unfurled.

In either case the resultant staysail appears as in FIG. **9**, with the partially unfurled sail **91** having its clews **94** and **95** connected by the forward ends of sheets **96** and **97**, the sheets diverging to the stern of the boat. In this configuration, as in the jib configuration, the poles shown as **82** and **83** in FIG. **8** and as **92** and **93** in FIG. **9** are not needed and they remain stowed to the lifelines. The resulting staysail configuration is shown schematically in FIG. **10** where **109** indicates the roller mechanism and **101** indicates the wings in their staysail configuration with their respective clews **104** and **105** joined together and sheets **106** and **107** diverging toward the stern of the boat.

These configurations have been tried on a forty foot yawl and worked well with wings made of four ounce dacron where each wing was approximately 400 square feet in area. Of course the size and composition of the wings will vary depending on the size of the vessel. Similarly the dimensions and content of the poles and the choice of furling gear will depend on the necessities and desires of the vessel involved.

What I claim is:

1. The method of converting Roller Wings into a different sail configuration which comprises:

a. moving the furling roller to a preselected point on the deck of a vessel;

b. aligning the respective clews of the furled wings and connecting the sheet associated with each wing to both wings so that the clews are held together by the sheets;

c. releasing the roller such that both wings unfurl with their respective clews remaining substantially aligned.

2. The method of claim **1** where the furling roller is placed at a point substantially at the bow of the vessel and the wings are completely unfurled.

3. The method of claim **1** where the furling roller is placed at a point substantially at the mid-point of the bow and the main mast and the wings are only partially unfurled.

4. The method of claim **3** where the wings are unfurled to approximately half their full span.

5. The method of converting Roller Wings in a jib sail configuration to Roller Wings in a stay sail configuration which comprises:

a. furling the wings,

b. moving the furling gear to a point substantially at the mid-point of the bow and the main mast,

c. unfurling the wings to approximately half their full span.

6. The method of converting Roller Wings in a staysail configuration to Roller Wings in a jib configuration which comprises:

a. furling the wings,

b. moving the furling gear to a point substantially at the bow of the vessel,

c. unfurling the wings to their full span.

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