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M. KEIM

3,395,577

WIND DEVICE PARTICULARLY ADAPTED FOR BOATS

Filed July 12, 1965

FIG. 1

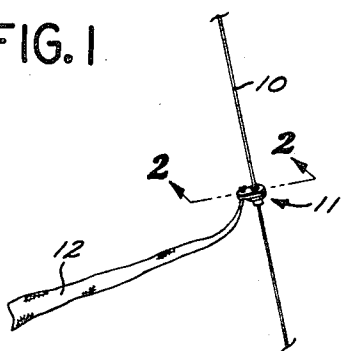


FIG. 3

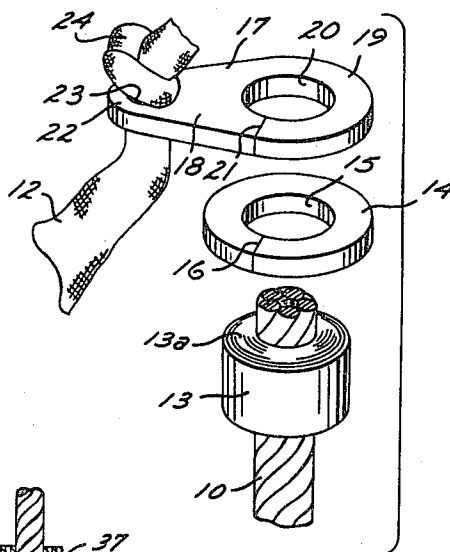
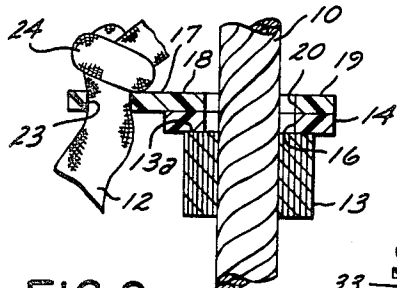


FIG. 2

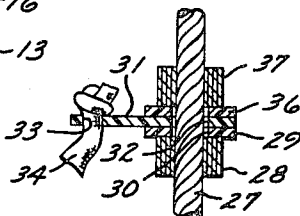


FIG. 4

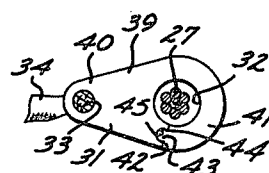


FIG. 5

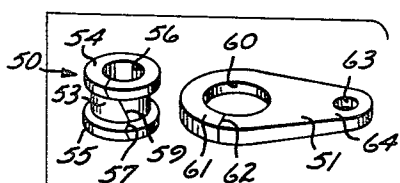


FIG. 6

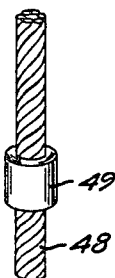
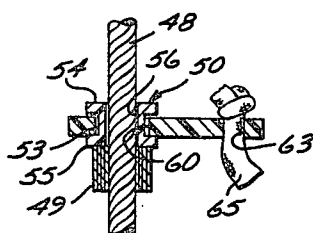


FIG. 8

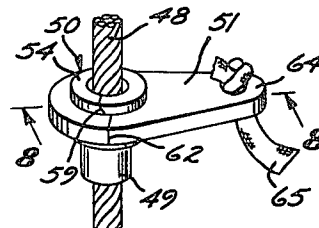


FIG. 7

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3,395,577 WIND DEVICE PARTICULARLY ADAPTED FOR BOATS

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ABSTRACT OF THE DISCLOSURE

A device which includes several wraps of adhesive tape around a boat shroud, or stay, to form an upwardly facing shoulder at a mid-point of a shroud of a boat, a bearing resting on said shoulder and having a hole through which is received said shroud, which bearing has a slit in one side and is flexible to permit the bearing to be twisted to open said slit to permit the bearing to be applied around said shroud at a mid-point thereof, a link resting on said bearing and having a hole through which said shroud is received, said link being flexible and having a slit connecting said hole to the periphery of the link to permit it to be twisted to open said slit to be mounted on said shroud at a mid-point thereof, and a flexible tail attached to said link at a point spaced from said hole.

This invention relates to wind direction devices particularly adapted for boats, and more specifically to such devices adapted to be mounted on the shroud of sailing craft.

In the navigation of sailing boats it is desirable that the helmsman know the direction of the wind relative to the direction of travel of the boat. This is in order that he can make optimum use of the wind.

Embodiments of the present invention are preferably mounted on one of the shrouds which stabilize a boat mast. The particular elevation on the shroud will vary according to the individual desires of the boat operator, however, the wind direction device will always be mounted at a point intermediate to the ends of the shroud. Further, it is impracticable to disconnect either end of the shroud for the purpose of attaching the wind direction device. Accordingly, there must be provided means for securing the wind direction device to the shroud without disconnecting either end of the shroud.

There has been provided in the past wind direction devices comprising merely of a strip of light cloth tied to the shroud. However, such approach has the disadvantage that the strip rapidly becomes wrapped around the shroud and useless. Embodiments of the present invention include a flexible tail, e.g., a strip of light flexible material mounted so that it may freely swing around the shroud—evading the problem just mentioned.

With the foregoing in mind, it is a major object of this invention to provide an improved wind direction device particularly adapted for boats.

Another object of this invention is to provide a wind direction device which may be quickly and easily mounted to a midportion of a shroud supporting the mast of a boat.

A further object of this invention is to provide a wind direction device which may be installed on a boat rapidly without requiring any special tools.

Still another object of this invention is to provide a wind direction device for boats which wind direction device may be quickly moved from one position to another on a shroud supporting the mast of the boat to another.

Other and further objects of this invention will become

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apparent in the detailed description below in conjunction with the attached drawings wherein:

FIGURE 1 is a partial pictorial view of a first preferred embodiment of the present invention mounted on a shroud;

FIGURE 2 is a fragmentary cross-sectional view of the first embodiment of my invention, taken along line 2—2 in FIGURE 1;

FIGURE 3 is an exploded perspective view of the first embodiment of my invention;

FIGURE 4 is a fragmentary cross-sectional view of a second preferred embodiment of the present invention;

FIGURE 5 is a plan view of the link of the second embodiment of my invention;

FIGURE 6 is an exploded perspective view of a third preferred embodiment of the present invention;

FIGURE 7 is a pictorial view of the third embodiment of the present invention with the parts assembled; and,

FIGURE 8 is a cross-sectional view of the third embodiment of my invention, taken along line 8—8 in FIGURE 7.

Referring now to FIGURE 1, embodiments of the present invention are used to secure a flexible material, e.g., a portion of a nylon hose to one, or more, shrouds which stabilize the mast of the craft. In FIGURE 1 there is disclosed an illustrative shroud 10 having a first embodiment of my present direction device disclosed and designated generally by the arrow 11. A tail 12 is secured to the direction device in a manner to be described in further detail below. Preferably, the tail 12 is of a material as, for example, light weight open mesh nylon. As will be described in further detail below the direction device 11 includes means which will permit the tail 12 to swing repeatedly around the shroud without winding the tail 12 around the shroud.

Referring now to FIGURES 2 and 3 there is provided an upwardly facing shoulder secured to the shroud upon which the wind direction device 11 is located. This upwardly facing shoulder will form the rest for the various pieces of the device 11. To this end, there is found around the shroud 10 at the desired point a strip of adhesive tape 13. The adhesive tape 13 is of such length that it is wound around the shroud 10 many times in order to provide an upwardly facing shoulder 13a. Other means could be used to provide the upwardly facing shoulder. For example, there could be used a piece of lead having a slit in one side, which piece would be crimped on to the shroud. However, the tape 13 is preferable because it is readily available. And further, such pieces to be crimped on the shroud are not readily adaptable to the larger size shrouds.

The upper edge of the strip of tape 13 provides a somewhat rough surface. Accordingly, there is provided a bearing 14 disposed above the shoulder 13a. The bearing 14, which is preferably shaped like a washer has a hole 15 through the middle of the annular body of the bearing. The bearing 14 is further defined by a slit 16 connecting the hole 15 with the periphery of the body of the bearing.

The bearing 14 is made of flexible, resilient, slick material such as plastic, nylon, or Teflon. In order to position the bearing 14 around the shroud 10 the person will, for example, take the portion of the bearing body immediately to the left of the slit 16 between the fingers of his left hand and the portion of the bearing body immediately to the right of the slit 16 in his right hand. Then, by applying a twisting motion to the body of the bearing 14, the opening provided by the slit 16 may be effectively widened sufficiently to pass therethrough into the hole 15 the shroud 10.

In the preferred embodiment the slit 16 has essentially

no lateral width. That is, the portion of the bearing 14 immediately to the left of the slit 16 are normally in close proximity, or abutting, the portion of the bearing on the opposite side of the slit. Such structure is preferred in that it may be easily produced, and there is full annular bearing surface presented on the upper and lower side of the bearing 14. However, the slit 16 could have lateral width so long as the width is substantially less than the diameter of the shroud 10.

Disposed above the bearing 14 is a link 17 having a body 18, preferably made of a material similar to the bearing 14. At its enlarged end 19 the body 18 is provided with a hole 20 of a diameter somewhat larger than the diameter of the shroud 10. There is also a slit 21 connecting the hole 20 with the periphery of the link body 18 as a means for selectively forming an opening in the body for receiving the shroud 10 into the hole 20. Similarly to the case of the bearing 14, a person grasps in his left fingers, for example, the portion of the link body 18 just to the left of the slit 21, and grasps in his right fingers the portion of the link body just to the right of the slit.

Then, by applying a twisting motion the slit is opened to a width sufficiently to accommodate the diameter of the shroud 10—whereupon the shroud may be passed through the opening thus formed into the hole 20. The link 17 is removed by the reverse process.

At its smaller end 22, the link 17 is provided with an attachment hole 23. The attachment hole 23 is provided for the purpose of securing the tail 12 to the link 17. This is easily accomplished by merely inserting one end of the tail 12 upwardly through the attachment hole 23 and forming a knot 24 in the end of the tail.

It should be noted that the attachment hole 23 is located at a point on the link body 18 adjacent to, but spaced away from the hole 20. This is so that the pull of the wind on the tail 12 will cause the smaller end 22 of the link body to always point in the direction in which the wind is going. Therefore, the link 17 will follow the tail 12 around the shroud 10 preventing the tail from getting wrapped around the shroud.

It is desirable that the attachment hole 23 should not be spaced too far from the hole 20. This is to reduce the lever arm and thereby diminish any tendency of the weight of the tail 12 to cant the link 17 relative to the shroud 10.

Referring now to FIGURES 4 and 5 of the drawings there will be described the second preferred embodiment of the present invention. In this case, shroud 27 has a strip of adhesive tape 28 wound many times around the shroud similarly to the first embodiment. Resting on the upwardly facing shoulder provided by the tape 28, there is located a bearing 29 of the same shape and material as the bearing 14. The bearing 29 has a hole 30 therethrough through which is received the shroud 27.

Resting on top of the bearing 29 is a link 31 swingably mounted on the shroud 27 by receiving the shroud through a hole 32 in the link 31. At a point spaced away from the hole 32, there is provided an attachment hole 33 for connection of a tail 34 in the same manner as tail 12 is connected to the first embodiment.

Just above the link 31 there is located an upper bearing 36 which serves to guide the motion of the link 31 from above. In order to prevent the bearing 36 from moving upwardly, there is secured to the shroud 27, a downwardly facing shoulder in the form of a strip of adhesive tape 37 wrapped many times around the shroud.

Referring now to the link 31 in further detail, the link has an elongated body 39 with a smaller end 40 in which is located the attachment hole 33, and an enlarged end 41 through which there is provided the above-mentioned hole 32.

Similarly to the prior embodiment, the link 31 is preferably made of a resilient, flexible material, and is pro-

vided with a slit 42 connecting the hole 32 with the periphery of the link 31. However, in this case it is desired that the link 31 be stronger than the link 17. Accordingly, the portion of the link body 39 just to the right of the slit 42 is provided with a leftward (as seen in FIGURE 5) extending male locking portion 43 which is necked down at 44. The male locking portion 43 is removably received in female locking portion 45 on the opposite side of the slit 42.

In order to install the link 31 on the shroud 27, for example, the person grasps the portion of the link body 39 just to the left of the slit 42 with his left fingers and grasps the portion of the link body just to the right of the slit with his right fingers. By applying a twisting motion, the male locking portion 43 is moved in a direction at a right angle to the plane of the link 31 out of the female locking portion 45. Then by further twisting of the body the opening formed at the area of the slit 42 may be widened sufficiently to accommodate the diameter of the shroud 27, the male locking portion 43 is moved into its position within the female locking portion 45.

Referring now to FIGURES 6 to 8 there will be described the third preferred embodiment of the present invention. In this case, there is provided an upwardly facing shoulder secured to the shroud 48, preferably, by means of a strip of adhesive tape 49 wound many times around the shroud.

Resting on the upwardly facing shoulder is a bearing member 50 which rotatably receives therearound a link 51.

The bearing member 50 has an annular body provided with a reduced central portion 53 with an upper annular flange 54 and a lower annular flange 55 at the upper and lower edges of the central portion 53 respectively. The bearing member 50 is further defined by a hole 56 through which may be received the shroud 48. Similarly to the prior embodiments, it is necessary that the bearing member 50 may be mounted on the shroud 48 at a midportion thereof without the necessity of disconnecting either end of the shroud. To this end there is provided a diagonal slit 59 connecting the hole 56 with the periphery of the bearing member 50. It will be noted that the slit 59 preferably does not extend parallel to the axis of the hole 56.

The bearing member 50 is constructed of a flexible material such as plastic, nylon, or Teflon. Therefore, the opening provided by the slit 59 may be widened to accommodate passage therethrough of the shroud 48 by applying a twisting motion to the bearing member similarly to the previously described embodiments.

After the bearing member 50 has been mounted on the shroud 48, the link 51 is positioned around the bearing member with the latter extending through hole 60 in the link 51. In order to permit movement of the link 51 to the position just mentioned, there is provided a slit 62 connecting the hole 60 with the periphery of the link 51. Therefore, by applying a twisting motion, the opening furnished by the slit 62 may be widened to accommodate the external diameter of the central portion 53 of the bearing member 50. Similarly to the first embodiment, the slit 62 could have lateral width and still accomplish its intended function.

Similarly to the prior embodiments there is provided an attachment hole 63 in smaller end 64 of the link 51. A tail 65 is connected to the link by having one end extended upwardly through the hole 63 and having a knot formed in that upper end.

While only a few embodiments of my invention have been shown and described in detail, it will be apparent to those skilled in the art that such is by way of illustration only and numerous changes may be made thereto without departing from the spirit of the present invention. Accordingly, the invention should be limited solely by the scope of the appended claims. Further, since the wind direction device could just as well be mounted on one of

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the other stays, the term shroud, as used in the foregoing specification and the following claims, is the equivalent of any of the other stays.

I claim:

1. A wind direction device particularly adapted to be connected to a shroud of predetermined diameter on a boat, said shroud having an upwardly facing shoulder secured thereto at a mid-point thereof, said device comprising:

a link adapted to rest on said shoulder and having a body with means at a first point connecting a tail to the link, said link having a round hole therethrough at a second point on said body spaced from said first point, said body being elongated with two ends opposite each other and said hole being at one end and said first point being at the other end of the link so that the first point is spaced away from said hole a substantial distance as compared to the diameter of the hole, said link having means for selectively forming an opening in said body for receiving a shroud through said opening into said last mentioned hole, said hole being of larger diameter than said shroud diameter so that said link may swing freely around said shroud when said shroud is received in said hole; and a flexible tail connected to said link at said first point.

2. A wind direction device particularly adapted to be connected to a shroud of predetermined diameter on a boat, said shroud having an upwardly facing shoulder secured thereto at a mid-point thereof, said device comprising:

bearing means adapted to rest on said shoulder and having an annular body with a hole therethrough adapted to receive therethrough a shroud, said bearing means having means for forming an opening in said body in response to a twisting motion on the body for receiving a shroud through said opening into the hole;

a link engaging said bearing means and having a body with means for securing thereto a tail at a first point on said link body, said link having a hole therethrough at a second point on said link body spaced from said first point, said hole in said link being of larger diameter than said predetermined shroud diameter so that said link may swing around said shroud when said shroud is received through said hole in said link, said body being elongated with two ends opposite each other and said hole being at one end and said one point being at the other end of the link so that the first point is spaced away from said hole a substantial distance as compared to the diameter of said hole, said link having means for forming an opening in said link body in response to a twisting motion on the link body for receiving a shroud through said opening said last mentioned hole; and a flexible tail connected to said link at said first point.

3. In combination with a shroud on a boat, a wind direction device, said device comprising:

a strip of adhesive tape of sufficient length wrapped several times around said shroud to provide an upwardly facing shoulder;

a bearing resting on said shoulder and having a hole therethrough with a slit connecting the hole and the periphery of the bearing, said bearing being made of material of sufficient flexibility and resiliency to permit a person to twist it sufficiently to open one side enough to position the bearing around a shroud of a diameter which is at most slightly smaller than the hole through the bearing;

a link having means at one point thereon for connecting a tail thereto, said link having a hole at a second point spaced from said first point, said link having a slit connecting the hole with the periphery of

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the link, said link being adapted to be twisted so as to form at the location of the slit an opening sufficiently large to accommodate and receive a shroud therethrough into said hole;

and a flexible tail connected to said link at said first point.

4. In combination with a boat shroud of predetermined diameter, a wind direction device comprising:

means forming an upwardly facing shoulder secured to said shroud at a midportion thereof;

a link having a body with means at a first point for connecting to the link a tail, said link having a hole therethrough at a second point spaced from said first point, said hole being of larger diameter than said shroud to permit the link to swing freely around said shroud, said link having means for selectively forming in said body an opening connecting said hole with the periphery of the body to permit the link to be removed from the midportion of the shroud, said link resting on said shoulder with the shroud extending through said hole;

and a flexible tail connected to said link at said first point.

5. The combination set forth in claim 4 wherein said link is somewhat flexible and the opening is formed in response to a twisting motion applied to the link body in the area of said hole.

6. The combination set forth in claim 4 including: a bearing having an annular body with a hole through which is received said shroud, at least a portion of said bearing body resting on said shoulder and another portion supporting said link, said bearing having means for selectively forming an opening connecting the bearing hole with the periphery of the bearing body to permit the bearing to be removed from the midportion of the shroud.

7. In combination with a boat shroud, a wind direction device comprising:

means forming an upwardly facing shoulder secured to said shroud at a midportion thereof;

a link having a body with means at a first point for connecting a tail to the link, said link having a hole therethrough at a second point spaced from said first point, said link being located just above said shoulder with the shroud extending through said hole, said link having means for selectively forming in said body an opening connecting said hole to the exterior of the body to permit the link to be removed from the midportion of the shroud, said last mentioned means including a slit extending from the hole at said second point to the periphery of the body with portions of the body on opposite sides of said slit abutting each other, said body portions being provided with locking means for selectively securing said body portions in said abutting relation; and a flexible tail connected to said link at said first point.

8. In combination with a boat shroud, means forming an upwardly facing shoulder at a midportion of the shroud; first and second bearing washers each having an annular body with a hole therethrough through which extends the shroud, said first bearing washer resting on said shoulder, said first and second bearing washers each having a slit connecting the hole with the periphery of the body;

a link located between said first and second washers, said link having a hole through which is received said shroud, said link having a slit connecting said hole in said link with the periphery of the link; and a flexible tail connected to said link;

and means forming a downwardly facing shoulder secured to said shroud just above said second bearing washer.

9. In combination with a boat shroud having means

forming an upwardly facing shoulder at a mid-point of the shroud, a wind direction device comprising:

- a bearing member having an annular body with a hole therethrough receiving a shroud, said bearing member resting on said shoulder and having an annular central reduced portion with an annular flange on either side of the central portion, said bearing member being provided with a slit connecting said hole with the periphery of the bearing member, said bearing member having sufficient flexibility to permit it to be twisted to open said slit sufficiently to accommodate the diameter of the shroud as the member is moved to a position encircling the shroud; and a link swingably connected at a first point on the link around the bearing member central portion; and a flexible tail connected to said link at a second point spaced from said first point.

10. The invention set forth in claim 9 wherein said link has a substantially flat elongated body with a hole at one end of said body, said link having a slit connecting the hole with the periphery of the link, said link body having sufficient flexibility that the link body may be

twisted to open the slit sufficiently to allow the bearing member central portion to pass through the slit into said hole, said central portion being located in said hole, and surfaces on said link being abutted by said annular flanges.

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