SWIVELING BANNER-CARRYING APPARATUS

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ABSTRACT

A banner-carrying apparatus which reduces the folding and winding up of the banner or flag about the banner-carrying pole by using a tubular sleeve coaxially, annularly and rotatively mounted about a flag pole shaft. Low friction bearing surfaces allow the sleeve to freely rotate unwinding, through the force of gravity, a flag which has been wound upon it. Specialized clamps provide adjustable and releasable securing of the flag to the sleeve.
SWIVELING BANNER-CARRYING APPARATUS

PRIOR APPLICATION


FIELD OF THE INVENTION

[0002] This invention relates to banner-carrying apparatuses and more particularly to flag poles for carrying flags.

BACKGROUND OF THE INVENTION

[0003] The display of flags has grown in popularity, particularly with renewed patriotism and the growing popularity of seasonal flags displayed outside the home. Such flags are typically mounted upon the house wherein the flag pole is typically oriented between 30° and 90° angle from vertical. In this orientation the flag is subject to become wound upon, tangled and wrapped around the flag pole through even moderate swirling winds, reducing their display appeal. It is therefore desirable to provide a mechanism which avoids the wrapping and folding of such banners or flags.

SUMMARY OF THE INVENTION

[0004] The principal and secondary objects of the invention are to provide a banner-carrying apparatus in which the folding and winding up of the banner about the flag-carrying pole is reduced or eliminated.

[0005] These and other valuable objects are achieved by a tubular sleeve sized and shaped to fit annularly and rotatively about a flag pole shaft. Low friction bearing surfaces allow the sleeve to freely rotate unwinding, through the force of gravity, a flag which has been wound upon it. Specialized clamps provide adjustable and releasable securing of the flag to the sleeve.

BRIEF DESCRIPTION OF THE DRAWING

[0006] FIG. 1 is a diagrammatic partial side perspective view of a flag pole according to the invention, carrying the flag mounted upon a wall of a house;

[0007] FIG. 2 is a diagrammatic cross-sectional top view of the snap clamp feature according to the invention;

[0008] FIG. 3 is a diagrammatic partial cross-sectional cutaway side view of a flag-carrying apparatus according to the invention;

[0009] FIG. 4 is a diagrammatic partial cross-sectional-side view showing an alternate embodiment of the lower bearing of the flag-carrying apparatus according to the invention; and

[0010] FIG. 5 is a diagrammatic partial cross-sectional side view of a sleeved flag secured upon a flag-carrying apparatus according to the invention;

[0011] FIG. 6 is a diagrammatic partial side perspective view showing an alternate embodiment of the sleeve portion of the pole adapted to have a longitudinal ribbed channel and toothed clamp engagement; and

[0012] FIG. 7 is a diagrammatic cross-sectional top view of the sleeve and clamp shown in FIG. 6.

DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

[0013] Referring now to the drawing, there is shown in FIGS. 1-3, a pliable banner-carrying pole 1 which avoids tangling or wrapping of the banner 2 about the pole. The apparatus is formed by an oblong substantially rigid cylindrical shaft or rod 3 having a central longitudinal axis 4 and has a lower first end 5 adapted to mount in a holder 6 attached to a fixed structure 7. The rod is mounted in an orientation wherein the angle A formed between the axis 4 and vertical 8 is generally between 30° and 90°. A substantially rigid body in the form of a substantially cylindrical tubular hollow sleeve 10 formed from durable rigid material such as polyvinylchloride plastic is rotatively and coaxially mounted upon the opposite end portion 11 of the rod. The sleeve is formed to have an inner cavity bounded by the inner surface 12 of the substantially cylindrical sidewall 19 of the sleeve. The sidewall also forms an outer surface 13 of the sleeve. Substantially cylindrical open ended steel snap clamps 14 snap over the outer surface 13 of the sleeve and remain in place due to friction, thereby releasably engaging the sleeve and act as fasteners for securing the banner to the sleeve. Therefore, the inner diameter “d” of the clamp is selected to be slightly smaller than the diameter of the outer surface 13 of the sleeve. Each of the clamps are formed to have a generally U-shaped hoop portion 15 which penetrates mounting rings 16 correspondingly mounted along the peripheral edge 17 of the sleeve proximate to the pole. The opening 18 of the clamp, therefore, is located on the opposite side of the sleeve from the peripheral edge 17.

[0014] The inner diameter of the sleeve 10 is substantially greater than the outer diameter of the rod 3. The sleeve 10 is rotatively mounted upon the end 11 of the rod 3 by means of a pair of bearings 20, 21. A first top bearing 20 is formed by an end cap 22 having a substantially conical inner surface 23 wherein the vertex of the conical inner surface forms a pit 24 substantially in line with the axis 4 of the rod. The cap is coaxially attached to the top end 25 of the sleeve. A bearing spike 26 extends axially upward from the upper end 11 of the rod and engages the pit 24 at a tapered, sharp end point. This provides a low friction point rotational top bearing 20. The spike is preferably made from steel or other durable material. The end cap is preferably made from steel or other durable material which over time will not be penetrated by the spike.

[0015] A second bearing 21 in the form of a nylon disk 30 is attached to the opposite bottom end 31 of the sleeve. The disk is substantially washer-shaped to have a substantially circular outer wall 32 commensurate with the outer wall 10 of the sleeve and is bonded at a joint 33 to the sleeve. A substantially cylindrical central hole 34 in the disk-shaped bearing is sized to allow intimate passage and free movement of the rod therein but to prevent all but minor pitch and yaw movement of the sleeve with respect to the rod.

[0016] In this way, the sleeve may rotate more than 360° in relation to the fixed pole.

[0017] Referring now to FIGS. 1 and 4, there is shown an alternate embodiment of the lower bearing for poles mounted at angles A close to and beyond 90° from vertical. Such orientations can lead to the sleeve axially separating from the upper end of the rod. In this embodiment, a retaining ring 40 is mounted to the rod 41 and axially located proximate to the second bottom disk-shaped bearing 42.

[0018] The ring is made from durable, low-friction material such as nylon and provides a low friction surface 43 for
bearing against the inner surface 44 of the second disk-shaped bearing 42. The second disk-shaped bearing 42 is now formed to have an upper cylindrical prominence 45 having outer corrugations 46 for enhancing friction between the bearing and the inner wall 47 of the sleeve and thus, removably attach the second bearing to the sleeve.

[0019] Referring now to FIG. 5, there is shown the pole configuration 50 wherein a flag 51 made from a pliable sheet material such as nylon fabric and is formed to have an oblong pocket extending along the length of its peripheral edge adjacent to the pole. The pocket is slipped over the outside of the sleeve 10 rotatively mounted upon the rod 3. For this type of flag, the snap clamps 14 are used to snap over the flag from the opposite side to secure the flag to the sleeve. In this way, the opening 18 of the clamp is located on the side of the sleeve adjacent to the flapping portion of the flag.

[0020] Referring now to FIGS. 6-7, there is shown an alternate embodiment of the pole 60 where the substantially rigid hollow and substantially cylindrical sleeve 61 has a pair of oblong longitudinal channels 62, 63 set into the outer surface 64 of the sleeve. Each channel is oriented substantially parallel to the axis of rotation 65 of the sleeve. The most radially inward or bottom surface 66 of each channel is formed to have a plurality of uniformly spaced apart humps 67 sized and shaped to interlock with teeth 68 formed onto the radially inwardly projecting jaw portions 70, 71, on each of the opposing arms 72, 73 of a snap-clamp 75. In this way, each of the humps can act as an axially restrictive prominence preventing axial movement of the clamp with respect to the sleeve. Because there are a plurality of uniformly spaced apart humps, the axial position of the clamps is adjustable to accommodate for example flags having differently spaced apart mounting rings.

[0021] The clamp 75 also has a substantially U-shaped hoop 76 similar to the previous embodiment. The clamp is preferably formed from a durable, resilient material such as steel. In a further adaptation, each of the jaws are formed into a broadened prong portion 77 to facilitate easy radial insertion of the clamp over the sleeve. The orientation of this prong portion is selected to be formed at an angle B away from the directly radial direction 78 to further facilitate mounting over the sleeve. The prong can be further formed to have a convex surface 80 to further facilitate mounting over the sleeve.

[0022] While the preferred embodiments of the invention have been described, modifications can be made and other embodiments may be devised without departing from the spirit of the invention.

What is claimed is:

1. A banner-carrying apparatus which comprises:

an oblong rigid rod having a top extremity and a given outer diameter;

a substantially rigid tubular sleeve defining a central cavity having a lower end and an opposite upper end;

said sleeve being sized and shaped to coaxially and rotively mount over said rod;

a cap closing said upper end, said cap having an axial pit tapering to a closed vertex;

a spike projecting axially from said top extremity and having a tapered sharp end point engaging said axial pit, thereby forming a low friction first bearing; and,

a banner secured to said sleeve;

whereby said spike engaging said pit causes a self-centering of said rod within said sleeve, and whereby said banner is encouraged to defurl under the influence of gravity when said rod is oriented at a non-vertical angle.

2. The apparatus of claim 1, wherein said axial pit is substantially cone-shaped.

3. The apparatus of claim 3, wherein said spike and said cap are each made from a material comprising steel.

4. The apparatus of claim 1, wherein said rod is oriented at an angle which is non-vertical.

5. The apparatus of claim 1, which further comprises:

said sleeve having an inner diameter substantially greater than said outer diameter;

a second bearing comprising a cylindrical plug removably inserted into said lower end and having a central hole rotatively engaging said rod; and

a retaining ring fixedly mounted on said rod within said sleeve proximate said second bearing, whereby said ring restricts axial movement of said sleeve with respect to said rod.

6. The apparatus of claim 5, wherein said rod is oriented at an angle greater than 90 degrees from vertical.

7. The apparatus of claim 1, wherein said apparatus further comprises at least one snap-clamp sized and shaped to releasably engage said sleeve.

8. The apparatus of claim 1, which further comprises said banner being shaped to have a oblong pocket sized to slip over said sleeve.

9. The apparatus of claim 8, which further comprises said at least one snap-clamp being further sized engage said sleeve over said banner.

10. The apparatus of claim 7, wherein said at least one snap-clamp comprises a substantially U-shaped hoop portion.

11. The apparatus of claim 10, wherein said banner comprises a mounting ring sized to be penetrated by said hoop portion of said at least one snap-clamp.

12. The apparatus of claim 11, which further comprises said at least one snap-clamp being further sized engage said sleeve over said banner, whereby said at least one snap-clamp is capable of engaging either said mounting ring or a second banner having a peripheral pocket.

13. The apparatus of claim 7, wherein said sleeve is formed to have at least one axially restrictive prominence formed onto an outer surface of said sleeve.

14. The apparatus of claim 13, wherein said sleeve comprises:

a variable depth channel and wherein said at least one snap-clamp comprises a prong shaped to intimately engage said channel.

15. The apparatus of claim 7, wherein said at least one snap-clamp comprises a toothed jaw sized to engage said sleeve.

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