UNITED STATES PATENT OFFICE

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FLAGPOLE AND OPERATING MEANS THEREFOR.

Robert Ellis, Belleville, N. J.

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8 Claims. (Cl. 116—173)

1. This invention relates to a flag-pole and operating means therefor and is a continuation in part application on my pending patent on Flag-pole, and flag manipulating means, filed May 8, 1943, and bearing Serial Number 486,129, now Patent No. 2,377,219, granted May 29, 1945.

Two of the principal objects of this invention is the provision of means for permitting or causing the flag to fly in such manner that it will not become wrapped around the flag-pole in a changing wind.

A further object of the invention is to provide of novel means for housing the flag, when not flying, within the hollow flag-pole and incidentally eliminate the inconvenience of tying, and untwisting the flag to the operating rope each day.

A still further object of the invention is the provision of means for causing the flag to enter and to be withdrawn from the hollow flag-pole by the convenient application of a simple crank to a reel at the base of the pole.

A still further object of the invention is the provision of means for permitting the flag to fly at half mast.

And a still further object of the invention is the provision of means rendering the flag-operating means absolutely tamper-proof.

Other and further objects will appear in the specifications and be specifically pointed out in the appended claims, reference being had to the accompanying drawings exemplifying the invention and in which:

Fig. 1 is a general vertical view of the flag-pole showing the flag in flying position.

Fig. 2 is a vertical cross section on the line 1—1 of Fig. 1, showing the upper end of the flag-pole.

Fig. 3 is a vertical cross section on the line 2—2 of Fig. 2.

Fig. 4 is a vertical view of the middle portion of the flag-pole.

Fig. 5 is a vertical cross sectional view on the line 3—3 of Fig. 4.

Fig. 6 is a vertical cross sectional view on the line 4—4 of Fig. 5.

Fig. 7 is a vertical cross sectional view on the line 5—5 of Fig. 6.

Fig. 8 is a vertical sectional view on the line 6—6 of Fig. 7.

Fig. 9 is a vertical cross sectional view of the lower half of the flag-pole, showing the lower operating portion of the flag-pole.

Fig. 10 is a vertical cross sectional view of the lower half of the flag-pole, showing the face of the clutch-plate attached to the reel.

Fig. 11 is a vertical sectional view of the operating portion of the flag-pole.

Fig. 12 is a vertical cross section on the line 12—12 of Fig. 11.

Fig. 13 is a top cross sectional view on the line 13—13 of Fig. 1.

5. Referring to the drawings in which like characters and numerals of reference refer to similar parts throughout the several views, the numeral 15 denotes a hollow flag-pole section, preferably constructed of metal pipe, firmly set upright in the ground 16 or equivalent base. To the upper end of the flag-pole section 15 is attached, as by means of the screw threads 17, the reel-housing 18 and to the upper end of the reel-housing is attached, in a similar manner, the middle hollow flag-pole section 19. To the upper end of the middle section 19 is securely attached, as by screw threads 17, the collar 20. Welded to or otherwise firmly attached to the collar 20 is the lower racing 21 of an axial thrust bearing, the aforementioned parts comprising the stationary portion of the flag-pole.

To the upper end of the stationary portion of the flag-pole is revolvably mounted the hollow flag-pole extension 22, preferably constructed of thin steel tubing, the lower part of which projects into the hollow interior of middle flag-pole section 19 a sufficient distance as at 25 to steady the flag-pole extension 22 laterally while being free to revolve therein. Press fitted to and around the circumference of the flag-pole extension 22 are the upper race ring 23 of the axial thrust ball bearing and the weather shielding collar 24 as shown. It will thus be evident that the flag-pole extension 22 is free to revolve a number of revolutions, limited only by the torsional stress applied to that part of rope 34 between the pulley 32 and reel 41, on a vertical axis on ball bearings in relation to the stationary part of the flag-pole. The lower end 25 of the flag-pole extension 22 is reamed on the inside as at 26 so as to prevent the ropes and flag from chaffing and tearing on the edges.

To the upper end of the flag-pole extension 22 is secured, as by soldering or welding, the lower half 27 of an ornamental hollow ball, the upper half 28 thereof, being provided with a circular flange 29 which fits over the upper portion of the lower half 27 of the ball as shown, after the shaft 30 is first inserted into the U-shaped cut-outs 31 on the periphery of the half 27, the ends of the shaft being threaded and the two halves of the ball 27 and 28 respectively being then rigidly clamped thereto by the nuts 31. A grooved pulley...
32 is revolvably mounted on the center of shaft 30 and restrained from lateral displacement by washers 33 which are pressed to shaft 30 as shown. It will thus be evident that pulley 32 is free to revolve almost shaft 30 and the rope 34 travels thereover within the pulley groove as illustrated and as the circumference of the pulley is close to the inner side of the ball halves, the rope 34 cannot jump out of the pulley groove. After rope 34 passes over pulley 32, both of which are invisible from the outside, it passes through hole 35 at the lower part of lower hollow ball half 27, just outside of the confines of flag-pole extension 22 as shown and is attached, by stitching or tying, to flag 36. When leaving the bottom part of flag 36, the rope will now bear number 37 and has attached to it a number of leaden balls 38, the function of which will be later explained. Rope 37 now enters elongated hole 39 near the lower end of visible portion of flag-pole extension 22, and is run through the interior of the lower part of hollow flag-pole section 22 and the hollow flag-pole section 19, the end of rope 37 terminating in a weight 40 while the end of rope 34 is attached to reel 41 within housing 18. The edges of holes 35 and 39 are beaded on the outside as shown so as to eliminate chafing of the ropes and flag when hauled through and incidentally to divert tracking rain from the ball and pole. From the foregoing description it will be evident that the flag 36 may be blown in any direction by the wind and thus cause the flag-pole extension 22 to easily revolve in compliance therewith on its ball bearing support, the ropes 34 and 37 not getting twisted or tangled around each other within the hollow flag-pole during such revolving movement.

In order to lower the flag from flying position, all that is necessary is for a person to grasp the handle 42 of crank 43 after inserting unconventionally shaped point 44, such as an isosceles triangle, through hole 45 in housing 18 and into corresponding conventional triangular hole 46 in end of shaft 47 to which reel 41 is attached. Shaft 47 is revolvable in bearing 48 and 49, both fixed to the housing 18. A helical spring 50 surrounds one end of shaft 47 as illustrated and is normally tensioned in the direction of arrow 51 so that face of reel 41 is pressed against face of bearing 49. The contact face of the reel 41, see Fig. 8, is provided with a number of radially extending slots 52 into which the correspondingly formed radially extending projections 53, see Fig. 9, ill., thus preventing the reel 41 from revolving under normal conditions. However, when the point 44 of crank 43 is inserted into hole 46 at end of shaft 47 and pressed inward against tension of spring 50, the slots 52 will disengage from projections 53 and the reel 41 will then be free to revolve in other direction according to which way the crank 43 is turned. By turning the crank 43 counterclockwise, the flag 36 with balls 38 will be hauled downward, due to the greater pull of weight 40, through hole 39 and into the hollow interior of flag-pole extension 22 and middle flag-pole section 19, where the flag is designed to remain when not in use. At this point, the crank 43 is withdrawn from housing 18 whereupon the spring 50 immediately forces the slotted face of reel 41 into the projections 53 of bearing 48, thus causing the flag 36 to remain stationary inside of hollow pole sections 19 and 22. The flag 36 may be hauled down through the interior of the hollow pole and through the opening in the housing to the outside where another flag may be substituted if desired. Access to interior of housing 18 is secured by removing cover 54 which is attached by screws as shown. In order to raise the flag to flying position, all that is necessary is to insert crank point 44, as previously described, to reverse the turning movement as will be readily understood, the flag 36 then emerging upward out of interior of flag-pole through hole 39 ready to fly.

It will be evident that the flag and ropes are tamper-proof, being inaccessible unless the flag-pole is climbed to the top thereof, a most unlikely occurrence. In order to prevent tampering with the reel 41, as by pushing a stick through hole 45, I provide a spring snap cover 55, pivoted to the housing 18 by a rivet 56, see Fig. 10, this cover also being provided with a corresponding unconventional triangular hole 51 to fit the tip 44 of crank 43. The cover 55 is preferably constructed from spring sheet metal so that it will snap in place between the two V-shaped projections 58 attached to outside of housing 18, the dotted lines illustrating the closed position in which the cover 55 would cover hole 45 in housing 18 and thus prevent access thereto by unauthorized persons. To swing cover 55 for access to hole 45 and back again, the crank point 44 is merely inserted into hole 57 and used as a lever as shown by dotted lines 43 and 42. It will thus be evident that a single simple tool, the crank 43, is all that is necessary to operate the flag and incidentally to protect the operating means from tamperers.

Should it be desired to fly the flag 36 at half-mast, all that is necessary is to unhook or unclip the weight 40 from end of rope 37. The other parts of rope of the required length to the free end of rope 37 and turn reel 41 so that flag 36 will descend. However, instead of the flag 36 entering hole 39 as in the previous instance, with the weight 40 removed from end of rope 37, the lead ball weights 38 will now drag the flag directly downward outside of the pole, drawing ropes 34 and 37 along as illustrated by the dotted lines in Fig. 1. The leaden ball weights will drop within the circular wire loop 59, attached to middle pole section 19, as shown, see Fig. 13. The wire loop 59 confines the leaden ball weights 38 so that they will prevent the flag from swaying too far outward from the pole as will be readily understood.

In Figs. 11 and 12 are illustrated a modification of the upper end of the revolvable extension pole 22, here numbered 22A, which in this case provides a rounded flanged top 60 as shown which permits the rope and flag to be easily hauled therewith into and out of the interior of the hollow flag-pole, thus eliminating the pulley 32, as illustrated in Figs. 2 and 3, if so desired. A hollow ball 61 covers the opening 53 in the top extension pole 22A, preventing entry of rain or snow and incidentally improving the appearance of the pole. The ball 61 is soldered at 63 to the top of rounded flange 60 as shown and of course revolves with the extension pole 22A. The ball 61 is provided with a hole 64 near its bottom as illustrated through which the flag 36 is hauled into and out of the hollow poles 22A and 19 by means of ropes 34 and 37. In this arrangement, the flag 36 may be hauled into or out of either hole 64 or hole 39, whichever is desired, in fact, it will be readily understood that a multiplicity of flags may be substituted, either one or several at a time, by tying the flags in series to rope 34 within the hollow flag-pole.

The hollow ball 61 or ball halves 27 and 28 respectively may be substituted by other ornate-
mental figures such as an eagle, spear-head, etc., the structural idea herein being to provide a shield against entrance of rain or snow and incidentally lower side opening 23 and form a housing and bearing thereof as well as to prevent the rope 24 from jumping out of the pulley groove. The entire flag-pole may also be made rigid if desired and the reel 41 may be located at a distance from the pole in which case the operating ropes would pass through a conduit, not shown.

From the foregoing description it will be evident that I have evolved a flag-pole and operating means therefor which provides extreme convenience as it has heretofore been necessary to tie and untie the flag to the rope ends each day, haul the flag up and down the entire length of the pole and tie the rope ends to a cleat as well as to carry the flag to and from the pole each time. Furthermore, it is now also practically impossible for unauthorized persons to tamper with the ropes as they are now inaccessible and incidentally protected from the weather. Also, the flag cannot now become entangled around the flag-pole with a changing wind and the ball or other ornament used for a weather shield, etc., will considerably enhance the general appearance of the flag-pole. And lastly, it is now possible for a child or female person to operate the flag raising and lowering means.

Various changes may be made in the embodiment of the invention hereinafter specifically described without departing from or sacrificing the advantages of the invention as defined in the appended claims.

I claim:

1. A flag-pole and operating means therefor comprising a hollow fixed pole, a hollow extension pole mounted to the upper end of said fixed pole, a side pole in said extension pole near the lower end thereof, a side opening in and near the lower end of said fixed pole, a rope extending from said lower side opening in the fixed pole up through the hollow interior thereof and on through the extension pole to the outside thereof through the said side hole in the hollow lower side opening in the extension pole and down through said hollow fixed pole to the said lower side opening therein, a flag attached to said rope on the outside of said hollow extension pole between the upper and the said lower side opening therein, said hollow extension pole being rotatable in a vertical axis in relation to said fixed pole, and a reel mounted near the lower side opening in said hollow fixed pole, one end of said rope being attached to said reel while the other end of said rope is attached to a weight vertically movable within said hollow fixed pole.

4. A flag-pole and operating means therefor comprising a hollow fixed pole, a hollow extension pole rotatably mounted to the upper end of said hollow fixed pole, a side opening in and near the lower part of said hollow extension pole and a reel mounted in said hollow extension pole, a rope operating opening in and near the lower part of said hollow fixed pole, a rope extending upward through said fixed pole from said rope operating opening in the lower part of said hollow fixed pole and through said rotatable extension pole and around said pulley to the outside of said rotatable extension pole and through the lower side opening therein and down through said hollow fixed pole to the aforesaid rope operating opening therein, a flag attached to said rope between the said pulley and the said side opening in the lower part of said rotatable extension pole on the outside thereof, and means for operating said rope from said rope operating opening so as to cause said flag to enter the lower opening in said rotatable hollow extension pole.

5. A flag-pole and operating means therefor as in claim 4, said pulley being covered with a hollow ball, said ball having a hole in the lower part thereof for the passage of aforesaid rope there-through.

6. A flag-pole and operating means therefor comprising a hollow pole, a flag-manipulating rope attached to the flag at a middle part of said rope and having the ends of said rope extending therethrough from the hollow interior of said pole to an operating opening in the lower part of said hollow pole, a reel mounted in said operating opening, one of said rope ends being attached to said reel, and the other end of said rope being attached to a weight vertically movable within said hollow pole, a clutch on said reel in normally braked position, and a crank adapted to operate said reel and simultaneously release said braking means during such crank application.

7. A flag-pole and operating means therefor comprising a hollow fixed pole, a hollow extension pole rotatably mounted to the upper end of said hollow fixed pole, a rope operating station located near the lower end of said hollow fixed pole, a flag adapted to fly from the upper part of said rotatable hollow extension pole, and a rope attached to said flag at a middle part of said rope, the ends of said rope extending downward through the said rotatable hollow extension pole and said hollow fixed pole to the said rope operating station.

8. A flag-pole and operating means therefor comprising a fixed hollow pole, a hollow extension pole rotatably mounted to the upper end of said fixed pole, a rope guiding means mounted to the top of said rotatable hollow extension pole, a weather shield attached to the top of said rotatable hollow extension pole and covering said rope guiding means, a normally braked reel mounted to the lower part of said hollow fixed pole.
pole, a side hole in the lower part of said rotatable hollow extension pole, a rope having one end thereof attached to said reel, said rope leading up through the hollow interior of said fixed hollow pole and through said rotatable hollow extension pole over said rope guiding means and downwards therefrom and outside said rotatable hollow extension pole through the aforesaid side hole therein to the interior thereof to a weight movable longitudinally within said fixed hollow pole, a flag attached to said rope on the outside of said rotatable hollow extension pole between said side hole therein and said rope guiding means, and means for revolving said reel so as to manipulate said flag into or out of the interior of said hollow poles.}

ROBERT ELLIS.

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